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ABSTRACT

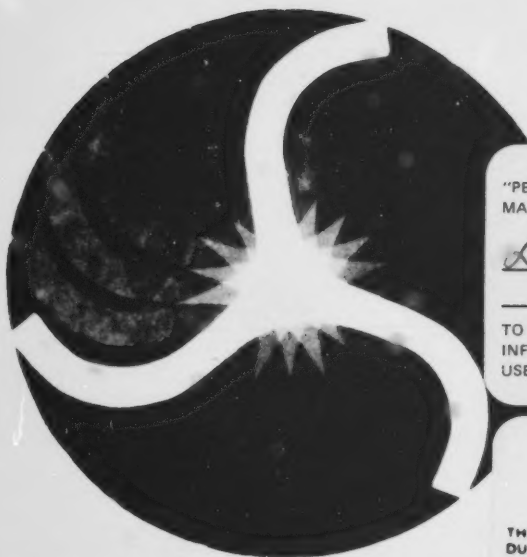
The prerequisites, the process, and the outcome of the implementation of the competency based teacher education program at the University of Houston are examined and analyzed. The following components comprise the framework for analysis of this innovation: (1) goals and basic assumptions, scope of the pursued change, and characteristics of the innovation under conditions of implementation; (2) sociocultural background, economic factors, changes in science, technology, and the profession; (3) personnel, financial and technological resources, curriculum and student assessment, laws and regulations, and management of the program; (4) innovation strategies, processes of decision making, and relations between the existing structures and the change process; and (5) the effects of the innovation, advantages and disadvantages for persons involved, main barriers to implementation, and future development of the innovation. Appendixes include a discussion of the methods of investigation and questionnaires submitted to students, teacher educators, and former students. An outline of the structure of the pilot program and the proficiency analysis rating instrument used in this study are also appended. (JD)

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THE PROFESSIONAL TEACHER PREPARATION PROGRAM OF THE COLLEGE OF EDUCATION OF THE UNIVERSITY OF HOUSTON: A CASE STUDY

Materialien und Studien Band 11



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1. THE 'WHY' AND 'WHAT' OF THE CASE STUDY

The introduction of a competency-based teacher education (CBTE) program at a teacher education institution does not only require an extensive modification of the curriculum but also of goals, organizational forms and role relations. Therefore, its implementation cannot be evaluated in terms of the outcomes in only one of the mentioned areas; rather, the change as a whole process, its surrounding factors, its elements, control mechanisms, and specific phases of development have to be analysed. A precise knowledge of the factual interactions of all factors involved is necessary if we wish to do justice to the dynamic, multidimensional and systemic character of such a complex change process.

Furthermore, the CBTE movement has become highly differentiated and produced very different variants. For this reason, an investigation of the whole phenomenon must include a general overview and a study of the relationships between the general factors of the CBTE movement and the concrete conditions of implementation by considering individual and exemplary programs.

This movement being relatively novel, research work is hardly available. In view of the strong controversies raised by CBTE and of its significance for the educational policy, the studies conducted in the framework of the movement need some correcting to be properly interpreted from the West German point of view.

It seems quite natural then to study in detail the prerequisites, the process, and the outcome of the implementation of CBTE programs by taking a concrete case. Deriving from the social sciences, a case study is an approach that leads to insights and hypotheses in a rapidly evolving domain, which may be of great significance for structuring the scientific

process of inquiry in the whole field of knowledge¹.

"A Case study of educational change is an attempt to focus attention on the process of change, especially the critical factors that influence the direction and the quality of the change effort. Although a case study can hardly give final answers to causes and effects, it can focus on processes and relationships, and, thereby, be the basis for the formulation of hypotheses that can be the focus of further intensive research. Moreover, a case study can unveil important issues that can start an ongoing learning and growth process in the institution under study and among those studying it. Insiders, as well as outsiders, to the change situation can, through a case study analysis, discover and re-discover their own assumptions and hypotheses about educational and social change. This is the major purpose of case studies".²

The Professional Teacher Preparation Program (PTPP) of the University of Houston (Texas) was selected for this case study. Apart from practical considerations, the following reasons determined this choice: Relative to other CBTE programs, PTPP has reached a high level of development and implementation. Outstanding CBTE experts participated in its initiation and promotion from the beginning. The innovation strategy underlying its development and implementation is relatively well-elaborated and reflects the present stage of innovation research. Along with the CBTE programs of the University of Toledo, Ohio; of the Oregon College of Education in Monmouth; and of the University of Georgia in Athens PTPP, is one of the most

1 The OECD Centre for Educational Research and Innovation (CERI) was a precursor in the use of case studies as an instrument of innovation research in the educational field. The four volumes they published (CERI: Case Studies of Educational Innovation, I-IV, Paris 1973) may be considered as representative instances of the use of case studies in educational research.

2 P. Dalin: Case Studies as an Approach to Analysing Educational Change. Paper for the OECD project International Management Training for Educational Change (IMTEC), Oslo 1975, p.1.

prominent CBTE programs in the United States. It has played a forerunner role in the national CBTE movement during the last several years.

One of the basic orientations of the program is the emphasis on personality development and on the teacher's individuality leading to a reduction for the influence of behavioristic approaches to a large extent. The program is insofar an interesting subject for a case study as it permits, on the one hand, to study how the contradictions between personality-oriented and objective-oriented approaches are dealt with at the theoretical and practical levels and, on the other hand, to avoid engaging in a critical analysis of positions which are outdated on the American scene itself.

Another point is that mathematics education has been a pace setter in the development of the CBTE program at the University of Houston. Thus a problem can be studied whose solution is a precondition for professionalized teacher education, i.e. the involvement of content-oriented professional education in the innovation process.

When analysing PTPP we shall have to keep in mind that it is one of the most advanced programs of the American CBTE movement and not representative of the average approaches. One should be careful therefore not to draw too simple conclusions as to the viability of the CBTE concept, and hasty generalizations concerning the movement as a whole should be avoided; but the insights and hypotheses gained from this case study may nevertheless prove very useful for structuring the whole field.

There is to date no fully elaborated methodology for conducting case studies in the educational field. The factors involved are too complex and the frameworks are still open to question. "The situation today is that we have no easily agreed upon framework for studying educational change. If change is studied from a single discipline insufficient understanding results. ... From the IMTEC case studies, a framework for analysis has been developed which can illuminate

the major characteristics of the process and its conflicts from several disciplines. Such a framework is not the 'final truth' or evaluative. It is rather a method by which underlying and conflicts can be studied and discussed."³

The framework for analysis, developed by the OECD studies, has the following components:

1. Characteristics of the innovation:
goals and basic assumptions of the innovation;
scope of the pursued changes; characteristics of the innovation under the conditions of implementation.
- 2a. External factors:
the socio-cultural background; economic factors; changes in science and technology; changes in the profession.
- 2b. Internal factors:
personnel, financial and technological resources; curriculum and student assessment; laws and regulations; reward system; decision-making structure; distribution of power and control; management style; role relationships; organizational connections.
3. The change process:
history; innovation strategies; process of decision making; capacities for change; coordination and communication; treatment of conflicts; relations between the existing structures and the change process; management and control.
4. Effects of the innovation:
advantages and disadvantages for the groups involved; main barriers to implementation; future development of the innovation.

This analytical schema was used for the CBTE program in Houston. Other focal points were necessary to adapt it to

3 P. Dalin: Case studies as an Approach to Analysing Educational Change. Oslo: International Management Training for Educational Change, 1975, p.1.

our subject. Moreover, gaps in our information due to the constraints affecting practical research had to be tolerated⁴.

2. INNOVATION STRATEGY

The explicit goal of CBTE is to orient education as a whole and its organization to the desired product: a teacher with a defined set of competencies (knowledge, skills, behavior). The attainment of this goal requires various types of innovations ranging from changes in views, attitudes, and value systems of individual educators to changes in the organization of the whole program.

The development of the CBTE program was linked to a fundamental criticism of traditional programs. They were blamed for the following shortcomings: a limited conceptualization of the total program; insufficient research base (through theoretical and/or empirical knowledge); vagueness of the goals; piecemeal improvements and innovations; traditional instead of functional orientation; lack of program evaluation; inadequate data base for decision making etc.⁵.

Thus CBTE also claimed to provide a comprehensive approach for correcting these deficiencies. But to do this, it needed an innovation strategy which allowed the planned implementation of such ambitious changes. One may expect that such a strategy would have to be relatively complex for meeting the requirements. In order to implement it, one must organize the change process at the institutional level as well as win individual teacher educators and students to the ideas of CBTE, and qualify them for applying these ideas.

The most important initiators of the CBTE program in Houston

⁴ For a description of the carrying-out of the case study see Appendix 1.

⁵ James M. Cooper/Wilford A. Weber: *A Competency Based Systems Approach to Teacher Education*, in: *Competency Based Teacher Education: 2. A Systems Approach to Program Design*, ed. by James M. Cooper et al., Berkeley, California 1973, p. 7-12.

started from such a relatively complex innovation strategy. Approximately at the time when the experimental stage was completed and the whole undergraduate education was reorganized in line with the CBTE principles, J.M. Cooper, W.R. Houston, R.R. Howsam and W.A. Weber published an article entitled "Exploring Alternative Strategies for Institutional Change" in a representative reader on problems raised by the CBTE approach.¹ The authors were the Dean Howsam, the Associate Deans, Cooper and Houston, and the Director for Program Development, Weber, of the College of Education of the University of Houston.

In this article, they claimed the need to link institutional changes to shifts in individual attitudes and qualifications of the members of the institution, considering this linkage as the major condition for thorough innovations in teacher training institutions. "Change in one part of a system impacts all other parts of the system. Change in complex social systems is not likely to occur unless all the elements are collaboratively involved. Planned change involves identifying these elements and developing strategies of intervention that concentrate and focus the inputs. Teacher education is such a complex effort. Change strategies should involve:

- *College and universities

 - Professional units

 - Academic units

- *School districts and other employing units who collaborate in the field aspects of teacher training and conduct inservice programs

 - Administrators

 - Teachers

 - Public

- *Professional associations of teachers and other educators

- *State governmental units and their subsystems (county; intermediate units)

- *Teacher education students

¹ Exploring Competency-Based Education. Editor W. Robert Houston. Berkeley California: McCutchan, 1974.

Teacher education - preservice and continuing - as a modern functioning system, demands the active participation of all these institutions or components. ...

- (1) The attitudes, values, and behavior systems of people who are concerned with teacher education;
- (2) The organizational and communication structures within which such programs operate; and
- (3) the curricula studied by trainees. ...

Difficult as it is to change people, this remains the critical task. Schools will not improve until teachers are more effective; programs for preparing teachers will be no better than the teacher educators who train the teachers."⁶

The leading principles of innovation efforts in teacher education institutions, as formulated by the authors in the following, reflect the linkage between institution-oriented approaches and personality-oriented ones. They express the attempt to use highly structured organizational concepts along with a marked division of labor, clear-cut individual responsibilities, and a high level of integration together with elements of normative-reeducative innovation strategies⁷, such as maximum feasible participation by the persons involved and taking into account their values as a key to promoting the innovation process.

The authors start from the significance of explicit, well-defined objectives from the viewpoint of the innovation strategy, which can be achieved in a foreseeable time; in their opinion, these are more likely to contribute toward mobilizing and enhancing the readiness to innovate than vague, ambiguous and long-range goals.

At the same time, they point out: "Objectives formulated by

⁶ W. Robert Houston/Robert B. Howsam/James M. Cooper/Wilford A. Weber: Exploring Alternative Strategies for Change, in: Exploring Competency Based Education, ed. by W. Robert Houston, Berkeley, California 1974, p. 313/14.

⁷ See Chin, Robert/Benne, Kenneth D.: General Strategies for Effecting Changes in Human Systems, in: Planning of Change. Second edition. Ed. by Bennis, Warren G./Benne, Kenneth D./Chin, Robert. New York, Rinehart & Winston, 1969, pp. 32-59.

projects that seek change are more likely to be achieved if they are compatible with the explicit values and goals of the institutions."⁸

On the one hand, they ask that the leader of an innovative project be ... "perceived as having (1) competence and status within the organization, and (2) influence within the decisional and management processes of the institution..."⁹; they point out, on the other hand, that "a temporary system or project is likely to make enduring contributions only if the commitment to change exists within the regular system ... Emphasizing achievement of organizational goals must not negate an equal concern for the needs of the individuals in the institution. Particularly in primary institutions such as education, a high priority must be placed on human values."¹⁰

For the development of an innovation-inducing communication process they postulate "... institutional change is enhanced when organizational managers receive systematic data flow regarding operations and quality of the product, enabling them to make enlightened decisions."¹¹

They also consider as necessary that the members of the institution be made to participate extensively in decision making processes and informed in great detail about all decisions and events affecting them.

They believe that individual change on the part of the members of the institution is impossible, in the long run, without institutional support, especially in the field of sanctions and rewards:"... The institution that wishes to encourage change should express its commitment through a set of expectations which encourage adaptive behavior, and a rewards

8 W. Robert Houston et al., loc. cit., p.315.

9 Loc. cit., p. 317.

10 Loc. cit., p. 316/17.

11 Loc. cit., p. 318.

system which assures that those who innovate will be recognized and rewarded."¹² But they also see, "... changing people in an institution is critical in changing the institution. The most important changes are the ones that occur in people. Only through people-changes can structural and organizational changes work. Conversely, to make organizational changes without also providing for the necessary staff development will prejudice the organizational changes."¹³

On the one hand, they advocate respect for individual values and personal styles; but on the other hand they formulate: "... extreme freedom and autonomy among staff members are likely to inhibit change. When individuals are insulated by the institution from the consequences of their actions, they are less accountable for maintaining relevancy. Professors in some colleges can choose to isolate themselves, whereas a tough-minded peer interaction facilitates creativity, inventiveness, and change."¹⁴

The authors attempt to integrate the various aspects of this tension between structure-oriented and personality-oriented sub-strategies by using a systems theory perspective: "... systems theory considers all phenomena - whether natural, technical, or social - as complexes of elements in constant interaction with each other. Accordingly, change is not a simple process; it involves multiple elements."¹⁵

The concept takes into account the innovation research. In a representative empirical study of the innovation efforts made by American schools in the early 70s, R.G. Havelock attributes the failure of innovations to the following main factors: "The highest related barrier item was 'confusion among staff about the purpose of the innovation'. Almost as strong were the items 'unwillingness of

12 Loc. cit., p. 317.

13 Loc. cit., p. 318.

14 Loc. cit., p. 318.

15 Loc. cit., p. 319.

teachers and other school personnel to change or listen to new ideas', 'shortage of funds allocated for the innovation', and 'staff's lack of precise information about the innovation'.¹⁶ It becomes clear once again that it is not the institutional or the personality variables alone which play the decisive role but the interaction between both groups of factors and the regard paid to them by the "change agent".

In accordance with the emphasis placed on the school reform by the educational reform movement, innovation research has concentrated on the school system. Only few studies of innovation problems at university level are available. But the innovation strategy of the Houston group appears to be very advanced and well-thought-out if judged by the hypotheses and statements formulated in those studies. The emphasis placed on the relationships between curriculum and institutional reforms is one of the basic elements of CBTE philosophy. But these studies also stress that this interrelatedness is a highly critical point for innovations in universities: "Although academic and organizational reform comprise different and distinct activities, priorities and objectives, they are also interdependent or related in important ways. That is, many academic reforms (e.g. implementing new curricula) necessarily involve organizational change (e.g. hiring new faculty and creating new institutional relationships), vice versa. Further, attaining the goals in one area often involves trade-offs in the other."¹⁷

The same applies to the Houston authors' thesis, according to which teacher education programs can only be developed and implemented successfully if all groups involved parti-

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- 16 See R.G. Havelock et al.: Educational Innovation in the United States, Michigan 1973, p. 19; see also N. Gross et al.: Implementing Organizational Innovations, New York 1971; M. Fullan: Overview of the Innovation Process and the User, in: Interchange 1972, 2/3, p. 1-46.
- 17 Per Dalin/Milbrey McLaughlin: Strategies for Innovation in Higher Education, Strasbourg 1975, S. 4; see also: The Drift of Change. An Interim Report of the Group for Research and Innovation in Higher Education. The Nuffield Foundation, London 1975; Jack Lindquist: Political Linkage. The Academic Innovation Process, in: Journal of Higher Education 45 (1974) 5; Innovation in Higher Education, Hove 1974, ed. by K.G. Collier.

cipate in the process. They state in the above-mentioned reader on the problems of innovation strategies at the university level: "Finally, the institutional integration required by reform of higher education is exceedingly complex. That is, departments and faculties within universities not only must change their relationships to each other, but the proposed reform also assumes a closer relationship between institutions of higher education and secondary schools as well as non-educational institutions than existed previously."¹⁸

Referring to the organizational side of planned change in higher education the same reader says: "The high degree of complexity inherent to innovation in higher education not only means that achieving a high degree of mutuality of goals and priorities will be critical to the success of an innovation, but also, that new channels of communication and possibly new management strategies must be established. Innovation in higher education represents an organizational, not a technological innovation."¹⁹ The authors' thesis about the role of the goals of the innovation process, of the flow of communication, and of the importance of alternative reward systems, are in total agreement with this statement.

With regard to the significance of individual learning processes for the success of innovation Dalin and McLaughlin say: "Highly complex and central innovations tend to assume change that is difficult to accomplish - i.e. change in attitudes and behavior - and change that requires individuals to make significant change in their present practices and activities. ... Strategies that permit such individual development and learning to occur are critical to successful implementation, as well as to the eventual incorporation of innovative practices into the institution standard operating procedures. And, the greater and more difficult the change required of the individual, the more planners must attend to

¹⁸ Havelock et al., loc. cit., p. 6.

¹⁹ Loc. cit., p. 7.

providing these learning strategies, even at the cost of short run inefficiencies."²⁰ Here again the agreement with the statements of Cooper et al., especially concerning the relevance of attitudes and qualifications, is obvious.

Finally, the pronouncements of the authors on the need to set up competent project groups with powers of decision on the one hand, but also to build on the readiness to accept change in the traditional system on the other are in agreement with a central thesis of the article mentioned here as an exemplary source of information regarding the present stage of thoughts and research on problems of innovation in higher education: "... institutions do not adopt innovations and they do not create them either. Institutions adopt and develop innovations and use resources within the institution itself as well as resources from institutions and people outside the institution." - "Successful implementation would mean the ability of the institution to be responsive to centrally or externally developed and/or directed innovations, on the one hand and, at the same time, the ability to develop a creative growth and improvement process within the institution itself."²¹

The theoretical elaboration of an innovation strategy and its implementation are two different things. However, in such complex changes as required by the implementation of the CBTE program, the implementation very much depends on the quality of the planning, of the treatment of practical experiences, and of the scientific knowledge available. The prerequisites were apparently good in Houston in this respect. In the next chapter we will have to investigate to what extent this has been implemented in the actual innovation process and how far the local context and the responses by the people involved made differences from the original

²⁰ Loc. cit., p. 7/8.

²¹ Loc. cit., p. 20.

concept necessary: "... change does not exist in a vacuum; it has a context and takes place over a period of time. Accordingly, strategies for change must take into account the specific context, the individuals involved, resources available, and many other variables."²²

²² W. Robert Houston et al., loc. cit., p. 315.

3. THE PILOT PHASE

3.1 Frame factors due to the educational policy

The development of the pilot program in Houston cannot be properly understood without taking into account educational policy decisions and the developments in the state of Texas related to the organization of teacher education and to the future working conditions of teachers.

The following developments were especially relevant to the pilot phase:

- (a) the Senate Bill 8 governing the co-operation between schools and universities for the field training ingredients;
- (b) the setting up of committees for preparing new standards for the authorization of teacher education programs and the funding of a model program;
- (c) court decisions ordering the abolition of racial segregation in schools.

(a) The Senate Bill 8 was passed by the Texas Parliament in 1969. It was aimed at motivating public schools to make greater efforts toward teacher training and contribute thereby to improving the field training.

"... it extended the partnership in teacher education to include public schools while leaving the primary responsibility with universities. The bill provides a salary increment of \$ 200 for each teacher who supervises a student teacher for either one or two semesters, and \$ 50 per student for inservice education of supervising teachers and other related expenses. Senate Bill 8 funds are paid to school districts."

(Houston/Howsam, 1974, S.300)

A steering committee made of representatives of the schools and of the competent organizational unit of the university institution involved (the College of Education of the University of Houston) was set up for coordinating the field training of teacher students. The co-operation principles worked out on

the basis of the Senate Bill 8 largely account for the fact that the co-operation with schools and teachers proved to be one of the most productive and innovative aspects of the development of the experimental program.

(b) Since 1969 the Texas Education Agency, the administrative agency responsible for all questions relating to the education and the certification of school personnel in Texas, has been intensively involved in the reform of teacher education. It initiated the setting up of two committees of experts in 1969 intended to give recommendations for a revision of the "Standards for Education in Texas"¹. These standards lay down the degree of freedom with which teacher education institutions may grant certification. According to the "program approval principle", the teacher training institutions submit proposals for training programs which are then examined, and approved, by a state agency, in compliance with the standards.

The standards are the most important instrument for the State to regulate teacher education. Therefore, the intention to revise them suggests comprehensive reform plans. The committees set up by the Texas Education Agency for revising the standards initiated numerous activities directed at collecting the relevant data, consulting experts and organizing conferences and congresses at national level. From the very beginning, their work was greatly influenced by the ideas of the CBTE movement. This orientation was supported by the decision of the Texas Education Agency to promote P/CBTE in Texas.

"In 1970 the Texas Education Agency received a major U.S. Office of Education grant to facilitate performance/competency-based education developments. The TEA itself became an operating partner in the project. Harlan L. Ford, assistant commissioner of the TEA, was general project director ...

Centers for designing prototype programs in CBTE and faculty development were located at Texas Christian University, the

¹ Texas Education Agency, Austin, Texas. Bulletin 651, case 1961. Contrary to their designation, the "standards" relate to the training and certification of the whole school personnel.

University of Texas at El Paso, the Dallas Teacher Center, West Texas State University, and the University of Houston. Texas Christian developed a model based on professionalism; El Paso focused on the needs of middle school teachers of Mexican/American children; Dallas designed inservice education models; West Texas sought to coordinate content and methodology in the various disciplines; Houston devised a model based on the behavioral sciences.

A National component of the Texas project - to articulate state and national efforts - was subcontracted to the American Association of Colleges for Teacher Education."

(Houston/Howsam, 1974, S.300)

Decisive prerequisites for the funding and the organizational implementation of the pilot program in Houston were thus secured. It was also clear at that time that the experience gained in Houston would be incorporated via the revision of the standards into the efforts made towards a comprehensive reform of teacher education.

(c) Following a court order pertaining to the abolition of racial segregation, in the school year 1970/71, nearly 4000 teachers had to change their job in Houston. The relation between the black and the white population had to be the same for pupils and teachers (2/3 white, 1/3 black). Numerous teachers were then faced with utterly new problems. A great number of schools underwent significant changes in a short time.

Further, the American population of Mexican descent, representing only 2% of the teachers but 10% of the Houston population, also claimed its right.

For the teacher education institutions in Houston, this sudden change in the school reality had deep-going consequences: in a short time the students had to be prepared for a completely new situation.

Therefore the College of Education of the University of Houston initiated an empirical study¹ of the new demands on teacher education and on the reform of teacher education that resulted from the new situation. Interviews were conducted with more than 60 teachers at different schools in order to shed light on the interests, problems, needs and attitudes of the teachers who had been sent to multi-cultural schools (crossover problems).

Numerous teachers felt they had been insufficiently prepared for the new situation. They especially complained about problems of communication with their colleagues and pupils of the other colour. They said they did not know about the expectations of the other group and how their own behaviour would be interpreted, or how they should interpret the others' behaviour. The school management and the school supervisors too were at a loss in front of this new situation, they said. Problems of discipline became more frequent and more difficult to cope with, as a consequence of the numerous uncertainties in behaviour interpretation.

The results of this study suggested a series of consequences for teacher education in Houston. As the teacher especially needed interpretative and diagnostic skills in "multi-cultural setting", these had to be taught as early as possible so that the teacher was able to communicate with people of different cultural backgrounds, to understand and respect them. Orman recommends therefore: "Prospective teachers should be brought into contact with reality through various training experiences and actual encounters with children in a classroom. This will help them realize the importance of recognizing individual differences among students. ... Courses in cultural and language differences would be beneficial for prospective teachers. They could learn better what to expect from different types of students in the classroom. In addition to this, study

¹ See Bill Orman: Crossovers: Implications and Generalizations. Hectographed manuscript, Houston Teacher Center, University of Houston 1971.

could be made of the effectiveness of different types of discipline as applied to different cultural and socio-economic groups. The prospective teachers would be learning to have a greater respect for different languages and behavioral patterns" (Orman, 1971, in Houston/Jones/Howsam, 1973, p. 209).

Orman's suggestions have been taken into account in the pilot program. One of the four characteristic features of the program lays down that it should consider the cross-over problems and that the teacher should be prepared to approach socio-cultural differences in a differentiated way¹. In PTPP one of the 16 "generic competencies", the fundamental educational goals of the generic component of the program, is devoted to this problem area (Competency Six: "The teacher integrates into instruction the cultural environment of students"). PTPP has also its own "multi-cultural/bilingual education" program unit in the Department of Curriculum and Instruction and a separate "multi-cultural education" modular package .

3.2 Influences on the content

At the conceptional level, the pilot project could draw on available CBTE programs as well as on preparatory work on the individualization of teacher education.

The following models shall be mentioned in this connection:

- a) the Model Elementary Teacher Development Project
- b) the Model for Personalized Teacher Education (Fuller Modell)

(a) The Model Elementary Teacher Development Project

The Model Elementary Teacher Development Project is a project of the U.S. Office of Education which started in 1967. The aim of this project was to promote the development of several brand

¹ Houston/Jones/Howsam, 1973, p.26.

new model programs for elementary teacher education. Following an invitation to submit new models, 10 Comprehensive Elementary Teacher Education Models (CETEM)¹ financed by project funds, were proposed at different teacher training institutions. Yet, the U.S. Office of Education did not finance the implementation of these models. Some of them were however implemented later on, where they had been developed.

This implementation was done with the normal budget resources of the institutions concerned. The three most prominent examples are the model programs of the Toledo University, of the Oregon College of Education (Comfield Model-Northwest Regional Educational Laboratory) and of the University of Georgia .

The common features of the CETEMs are:

- (a) specification of the learning results in terms of behavioral goals
- (b) emphasis on clinical studies and field experience
- (c) pluridisciplinary work among educators
- (d) systematic evaluation of the professional abilities of the prospective teacher during the training and on completion of the program
- (e) permanent revision of the whole program under control.

These programs may be considered as exemplary formulations of the CBTE idea. They exerted a remarkable influence on US teacher training as a whole, and not only on elementary teacher training. The CBTE reform movement started from the CETEMs. The College of Education of the Houston University soon became one of the precursors of this movement (interview 1a). Three of the previous directors of the CETEMs came together: James M. Cooper, Milton H. Ojala, the previous director of the Massachusetts Model Elementary Teacher Education Program (METEP), Robert W. Houston, former director of the Behavioral Science Teacher Education Program (BSTEP) of Michigan State University and Wilford A. Weber with Charles Rathbone, previous director of the Syracuse Model Elementary Teacher Education Program.

1 A comparative analysis of these models is given in part I of my dissertation, which goes into the details of the history, the intention and the background of the corresponding project.

No other CBTE program could bring together so many competent people.

Robert W. Houston was the first to come to the College of Education of the University of Houston. In 1970 he was appointed director of the pilot program for the introduction of CBTE at the College. As Associate Dean for Off-Campus Activities and Director of the Houston Teacher Center, the decisive over-arching innovation agency of the pilot program, he exerted a profound influence on the development of CBTE in Houston.

As Associate Dean for Graduate Studies in Houston, James M. Cooper, could bring in his experience as a CETEM director especially through the research activities of the college. Wilford A. Weber became later on director for program development of PTPP but had already contributed significantly implementation of the pilot program.

(b) The Personalized Teacher Education Model (Fuller Model)
A meeting on teacher education was held in Austin in 1970. The organizer was the Texas State Education Agency. Numerous members of the College of Education of the University of Houston, among others, Houston, Jones and Ward participated in the meeting. Howard L. Jones was formerly Associate Program Director of the pilot program; G. Robert Ward belonged to the Department of Guidance and Counseling and had played a significant part in the development of the counseling model and of an introductory program component on motivational problems in the pilot program.

A concept for personalized teacher education, which was to have a strong impact on the design of the CBTE program in Houston, was discussed at this meeting. This concept was devised by F. Fuller, who at that time was a psychologist working in the field of research on teacher education at the R&D Center for Teacher Education of the University of Texas in Austin.

Fuller observed that in the course of their development, teachers went through different stages of concern. She stated

that there was agreement among several researchers on the existence of such stages. Yet, it is still unclear, she said, whether these are stages in the strict sense of the term, whether they are mutually exclusive or overlapping, whether there are differences of effectiveness between various teachers in various stages, etc.

"These stages, if such they are, have been described mainly in terms of what the teacher is concerned about rather than what she is actually accomplishing" (Fuller/Bown, 1975, p.37).

These stages relate to clusters of concern, as they actually manifest themselves. They are hence useful for descriptive purposes. Three clusters of interest, representing at the same time different phases of familiarization with the teaching profession, can be distinguished:

"1. Survival concerns. - These are concerns about one's adequacy and survival as a teacher, about class control, about being liked by pupils, about supervisors' opinions, about being observed, evaluated, praised, and failed. These are concerns about feelings, and seem to be evoked by one's status as a student. Preservice teachers have more concerns of this type than in-service teachers.

2. Teaching situation concerns. - These are concerns about having to work with too many students or having too many non-instructional duties, about time pressures, about inflexible situations, lack of instructional materials, and so on. These frustrations seem to be evoked by the teaching situation. In-service teachers have more concerns of this type than pre-service teachers.

3. Pupil concerns. - These are concerns about recognizing the social and emotional needs of pupils, about the inappropriateness of some curriculum material for certain students, about being fair to pupils, about tailoring content to individual students, and so on. Although such concerns cluster together, they are expressed by both preservice and in-service teachers. This may be because such concerns are associated with characteristics which cut across experience or because in-service

teachers feel such concerns more while preservice teachers express more concern about everything than do in-service teachers." (Fuller/Bown, 1975, p.37/38)

Teacher students who have just left college and who have not yet taught are interested in pupils but from the angle of their own pupil role. They have no experience of the teacher's role. Courses in educational sciences which treat the reality of the teacher's profession seem irrelevant to them.

When making their own first experience as a teacher, their major interest is survival. Their perspective changes abruptly. All of a sudden, their attention concentrates on classroom management, on the subject matter of instruction and its mastery, on the supervising teacher and his appreciation. However, in this period of time, they are mostly concerned with classroom management and problems of discipline.

Later on they are faced with the problems inherent in the limitations and frustrations of teaching situations and with the numerous demands made on teachers. Yet they are still preoccupied with their own achievement and not that of their pupils.

This phase continues until they cease to be tormented by their feeling of deficiency and anxiety before the demands made by the situation. Their attention is then essentially focused on the pupil and his progress, his social and emotional needs (see Fuller/Bown, 1975, p. 38/39).

The central thesis of the Fuller Model is that the training of the teacher, the selection and sequence of the learning experiences, his concerns and needs have to be adapted: "teaching content related to teachers' needs would increase the satisfaction teachers feel, and even their learning. For one thing, preferred material is likely to be reinforcing and so better learned. Even more important may be the modeling involved. Teachers may be more likely to consider the motivations of pupils if it is apparent to them that, in their own

training, their own needs were considered. Consequently, an important task for teacher education is helping teachers to implement their concerns about pupils since better teaching is probably associated with concerns about pupils rather than concerns about self" (Fuller/Bown, 1975, p. 40).

Fuller and her staff drew very detailed conclusions and issued corresponding recommendations¹. Instruments for measuring the interests and needs of the students² as well as different model programs were designed.

Fuller's theoretical reflections and practical recommendations have influenced in various ways the CBTE pilot program at the College of Education of the Houston University. The model served as a sequencing principle for articulating the competencies in the pilot program. The concerns provided as it were the skeleton to which the competencies were added (interview 9a).

"It is one thing to specify the objectives and competencies in a logical order; it is another to sequence them psychologically for instructional purposes. The concerns model developed by Frances Fuller of the Research and Development Center for Teacher Education at the University of Texas at Austin provided a rationale and supporting research for ordering the program. Fuller postulates that the teacher education student goes through a describable series of concerns. The beginning student typically is concerned with himself. This student raises questions such as 'How adequate am I?' and 'Where do I stand?' This student seldom asks 'Where do I stand as a teacher?', 'Are my pupils learning what I'm teaching?', or 'How can I improve myself as a teacher?' These latter questions are asked only with teaching and other experiences with pupils.

Plans were made for another screening of competencies through the Fuller model. ...

The curriculum generated and ordered through this screen would be a more relevant curriculum as perceived by students." (Houston/Jones/Howsam, 1973, p. 106ff)

1 Fuller, 1972.

2 Comprehensive Personal Assessment System (COMPASS), 1973 (ED 078089).

3 D.P. Butts et al., 1970 (ED 046908).

The use of the Fuller Model for solving the sequencing problem resulted in difficulties with the introductory units of the program. "The decision meant that an early focus in the program would be on some aspects for which we were not prepared. The curriculum had to start focusing on instructional materials dealing with student questions such as 'How adequate am I?' In fact, we couldn't find any other programs in the literature which reflected concern for the similar question, other than the experimental work being done at the University of Texas at Austin" (Houston/Jones/Howsam, 1973, p.107)

A package of psychological diagnosing instruments, developed at the R&D Center of the University of Texas by Fuller's team was used, among others, for solving these problems in the pilot program.

This strong emphasis on the development of the beginning teacher's personality is in line with the opinion expressed in the CBTE program that great attention has to be paid to the affective side of the education, which was not sufficiently taken into account in other teacher training programs¹.

¹ Incorporating basic features of the Fuller Model an instrument was also developed at the R&D Center for Teacher Education in Austin for diagnosing the attitude of individuals to innovation processes. It was also used in Houston (see 4.3).

3.3 Development of the experimental program

(a) History of PTPP in Houston

The beginning of the development of PTPP can be traced back to 1966, when, following the appointment of a new dean, the teachers of the College of Education committed themselves to develop and implement an innovative teacher training program (Felder/Weber, 1975, p.148).

The decisive role the dean played as an initiator of innovation is revealed by the interviews: "When our new dean came, he let us know that we would have only one teacher training program as soon as the new program could be implemented ... CBTE was prescribed." (Interview 3, p.2/3)

A close collaborator of his characterized him as follows: "Howsam is a leading figure at the national level as far as providing an organizational background for teacher training is concerned. Over the last 5 years he has paid great care to comprehensive 'Teacher Center Input', not only to legitimize it politically but also for the sake of careful theoretical foundations." (Interview 9b, p.2)

In the USA, Howsam is considered as a leading expert of the professionalization of teaching and teacher training. He was, for instance, appointed director of a committee of the American Association of Colleges for Teacher Education which prepared and published a comprehensive report on this subject, titled "Educating a Profession", for the Bicentennial celebrations of the USA¹.

The orientation of the content of the future innovative teacher training program, as it was decided then, allowed for concretization in the direction of CBTE but was more open: "The faculty has identified six objectives to guide curriculum development. These are:

1. Exemplify what it explicates.
2. Test and demonstrate in practice within the teaching and

¹ R.B. Howsam et al., 1976.

learning activities of the College the best practices of the leading innovative elementary and secondary schools of the nation.

3. Re-examine the professional components of teacher education to ensure that the relevant insights from the social and behavioral sciences are included and used in professional education courses.
4. Develop laboratory training programs, utilizing the latest technologies and insights, to make the preparation programs more effective.
5. Make the study of learning and teaching in the College a matter of research and development. In a very real sense the entire College program should be a subject of laboratory study.
6. Prepare teachers to live and work effectively in a society which is characterized by many forms of cultural gaps. Specifically this refers to what is widely known as the 'generation gap' and to the difference which exists between and among the dominant culture and its sub-cultures." (Houston/Jones/Howsam, 1973, p. 22)

On this basis Howsam started reorganizing the whole college. Obviously, this reorganization was based on the idea of institutionally anchoring the responsibility for the professionalization of teacher education.

The separation between the departments for elementary and secondary teacher training was abolished and the responsibility for certification of both types of teachers was given to the Department for Curriculum and instruction. So far it had rested with several departments and had been, probably for this reason, considered as a task among others. This was paralleled by the planning of a new building for the College of Education, intended to facilitate innovative communication and co-operation. This building was put at the disposal of the College of Education in 1971.

From 1967 on, numerous activities were undertaken at the level of content which paved the way for the development of PTPP at the College of Education of Houston University. According to consonant sources of information, the "Mathematics Education" section played a leading role in the Department for curriculum and instruction. The course EED 433 (Mathematics Education Methods for Elementary Teachers) was then rethought in collaboration with a local school. Significant features of the course were its division into learning-goal-oriented modules and its orientation to practice. A logistic system allowing for the individual needs and wishes of students was hatched out in order to make the acquisition of practical experience easier.

This also started before the inception of the CBTE movement. "As CBTE emerged, we were able to contribute the experience we had accumulated as "Mathematics Education Area" and as a College. CBTE was consistent with what we already believed in" (Interview 6, p.2).

The innovative core group which originated especially from the field of "Mathematics Education", in which it was also actively engaged at the beginning, was strengthened by Robert B. Houston. The connection with the national CBTE movement and the initiatives of the Model Elementary Teacher Development Project was established. Simultaneously the integration of this new "change agent" was made easier by the fact that Houston had been a "Mathematics Educator" and had previous contacts with the development work of the core group (interview 3, p.1).

Houston and another member of the teaching staff of "Mathematics Education", L. Hollis, were soon given administrative functions at the College. They made a decisive contribution to the development and implementation of PTPP.

This strengthening of the innovative potential resulted in the engagement, in 1968, of H. Jones, a specialist of physics education, who participated immediately in the development

work and became director of PTPP in 1972.

(b) Planning and development

(b1) Personnel and organization level

Owing to the increasing interest of the public and of the educational administration in the CBTE movement, the College of Education managed to secure in 1970 the funding of a pilot program for the introduction of CBTE, intended to draw on the preparatory work and use external information. The development of the pilot program was financed from federal funds and by the State of Texas. Three federal programs or projects participated in the funding: "This effort was greatly enhanced by a 1970 grant from the Trainees of Teacher Trainers (TTT) Project and by subsequent grants from the Texas Teacher Center Project and the Teacher Corps Program" (Felder/Weber, 1975, p.148).

The College of Education expected a considerable speeding up of the innovative process from this support: "The Houston TTT is seen by the faculty as speeding the process of implementation. Within a 3-year period or less this project will be expected to fully implement the model for the pilot populations" (Houston/Jones/Howsam, 1973, p.24).

The multiplicity of the expectations resulting from these different funding sources is reflected in the objectives of the projects, which are a great deal more ambitious than the CBTE program in the strict sense.

- "1. The overarching purpose of this project is to affect change in education through re-educating and retraining the teacher education personnel who potentially preside over the wellspring, the source, of educational practice;
2. Closely related is the objective of providing a source of supply for new teacher educators to perpetuate and expand the capacity to influence education through effective teacher preparation;

3. Similarly, the project aspires to preparing a supply of teachers, who, by virtue of their training, can be models and leaders in the profession;
4. As a deliberate by-product of faculty re-development wholly new programs of teacher preparation will be developed. These will be:
 - A. Performance-Based,
 - B. Oriented towards the problems of crossover, of dealing with differences in cultural backgrounds,
 - C. Individual and personalized, and
 - D. Systemic, with interrelated use of media and technology, laboratory training, and directed field-based experiences;
5. To develop performance criteria and means for assessing them which are an integral part of the training design but at the same time can become the basis for statewide teacher certification;
6. To develop and demonstrate in action an effective consortium of participants in and contributors to the preparation of teachers. This will include universities and colleges, schools, communities, students, the organized profession, and the State Department of Education; and
7. To develop a communication and dissemination system through which other interested educational consortia could utilize project experience in their settings."

(Houston/Jones/Howsam, 1973, p.25-27)

The similarity with the innovation strategy developed by Cooper et al. in the article reviewed under chapter 2 is clear: This concept also stresses the significance of staff development, the advantages of the systemic approach and the decisive role of cooperation between the training institutions involved in teacher education.

However, there were two additional points in this concept compared with the more general one. We shall only mention the first one in passing as we will turn to it in greater detail

in the next chapter (4.1): Performance criteria were not only developed for utilization at the college but also to provide a basis for state regulations on teacher certification.

The second point touches the dissemination of results and experiences at the national level as mentioned in the last chapter of the quoted catalogue of objectives. The responsible persons at the College of Education made great efforts to attract co-workers of nationwide esteem to this field of research and development in order to do exemplary work. They probably also wanted to boost the prestige of their own institution to secure additional funding.

The personnel policy of the preparatory phase continued. Three new co-workers, who influenced the decisions at the College to a considerable extent, were engaged at the beginning of the new phase: W. Weber, J. Cooper and D. Feler. The first two had already participated in CBTE. For the subsequent work, a new core group was built which took over the leadership from the educators of "Mathematics Education".

The building of the new group coincided with the setting up of the "Teacher Education Program Area", whose most important members were the three new co-workers. R. Houston joined them and took over the management of the pilot program, thus securing continuity in the work of the alternating "hard cores" of the working groups.

In the new phase, "Mathematics Education" remains a precursor inasmuch as the ideas developed there by the new core group were taken over and concretized.

G. Hall, who had been in close contact with the development of PTPP in Houston as a scientific counsellor and through various parallel research contributions, characterized the mentioned staff policy under the innovation angle as "Super-Star Strategy".

"The user system imports one or more recognized experts in the use of an innovation as full-time members of the system. These experts might have acquired knowledge and experience through use of the innovation in another user system or they may even be the original developers of the innovation.

Advantages: The user system gains immediate access to expertise and knowledge about the innovation. The user system gains national visibility.

Disadvantages: The 'old guard' staff of the user system may not receive warmly the input of the super-stars. Super-stars are usually only good at one place for three to six years before they move on. They may be threatening for less productive staff members" (G.E. Hall, 1974, p.37).

This policy is in line with the principle formulated by Houston et al.: "Managers who are perceived as having little status or influence with their superiors are able to exercise little influence with their subordinates" (Houston et al., 197, p.317). For the sake of fairness it should not be overlooked that this policy sought to build on the internal innovation potential, especially from that of the program area "Mathematics Education", and to link it organically to the imported potential.

The new project group took great pains to include the relevant institutions and groups in the innovative process, i.e. to achieve the project goal no 6. A consortium was founded with the following groups:

- College of Arts and Sciences, University of Houston
 - College of Education, University of Houston
 - Houston Independent School District
 - Regional Service Center IV, one of 20 centers established by the state to provide services to local school districts
 - Citizens of Houston, representatives of the cultural sub-groups served by schools which are involved directly in the project
 - The organized teaching profession"
- (Houston/Jones/Howsam, 1973, p.72).

This was also taken into account when the Board of Directors was established. But it also applies to a large extent to the project staff responsible for the implementation of the plans. The following appreciation of the quality and the outcomes of this co-operation by the project team seem to be realistic: "Each institution, organization and group was involved at all levels in the project planning, operation, and evaluation. A genuine partnership results as inputs vary among consortium members depending upon expertise and project requirements" (Houston/Jones/Howsam, 1973, p.72). This is especially the case for the co-operation between teacher educators and teachers aimed at improving preservice and inservice education¹.

However, the involvement of the representatives of the community was not satisfactory: "For the people involved in this effort, teacher education was not a primary priority, nor one in which they wished to devote their efforts" (Houston/Jones/Howsam, 1973, p.82). This had no negative consequences.

Far more important was that it was not feasible to include the college that bears the main part of teacher education, especially the education in the discipline of instruction, i.e. the college of Arts and Sciences. "While respecting the importance of educating teachers, the Arts and Sciences faculty on the Houston campus has been reticent to support existing approaches to teacher education. Few have desired to engage in cooperative projects. Contact was primarily at the informal level, with two or more faculty working together on a project. This has changed little during the three project years" (Houston/Jones/Howsam, 1973, p.79). This was to have negative effects on the total process.

The project group devoted much work and care to staff development tasks, as is illustrated by the following table.

¹ See Houston/Jones/Howsam, 1973, p.76.

Table 1*

NUMBER OF PROJECT PARTICIPANTS BY ROLE CLASSIFICATION
AND TYPE OF PARTICIPATION

NUMBER OF PROJECT PARTICIPANTS BY ROLE CLASSIFICATION AND TYPE
OF PARTICIPATION

Type of Participation	Role Classification					
	University (Education and Arts and Sciences)	Schools and Ed. Service Center	Community	Graduate Students	Undergraduate Students	Public School Students
Board of Directors	5	5	2	1		
Project Staff	21	4		15	2	
Faculty Released by College	16			3		
Committees, Task Forces	72	52	13	5	9	
Seminars or Workshops	105					
Prototype Test Classes	15				300	1300
Advanced Graduate Class	3	4		100		
CLTE Pilot Groups	27	153	2	10	185	5000
Total	264	218	17	134	496	6300

* Houston, Jones, Howsam, 1973, p.62.

The table supports the following thesis of the project report: "While the major focus was directly on curriculum improvement, those involved were provided an opportunity to become familiar with the issues and scope of the CBE movement, to input into program design, and to develop important programmatic materials and resources" (Houston/Jones/Howsam, 1973, p.61).

Besides the attempt to have as many persons as possible involved in the development of program and curriculum, besides workshops, conferences and visits of institutions etc., the efforts directed towards inservice teacher training were especially focused on giving teacher educators more an opportunity to get to know themselves better, their professional life, their value systems and patterns of behaviour, to increase their self-knowledge and self-improvement. For this purpose, a suitable instrument was developed by the Research and Development Center for Teacher Education in Austin, which was used for students as well as for the teaching staff, including the Dean.

But even this highly differentiated plan for the continuous education of educators had gaps. A training program for the development of team work skills was never offered, for instance, although this is one central condition for the implementation of CBTE (see interview 9a, p.3).

However, its efficiency was especially affected by the fundamental difficulties inherent in the approach used for founding the pilot program. Hall gave the following formulation of this approach: "Experimental Units. A small group of individuals from within the user system experiments with the innovation on a trial basis. If the innovation is successful, it is implemented in the whole user system.

Advantages: All of the user system does not have to suffer through the problems of initial adaptation and development of the innovation. If the innovation experiment fails a much smaller percentage of resources are lost than would be in a

blanket adoption.

Disadvantages: The innovation may be perceived by the rest of the user system as the special 'pet' project of the experimental unit. The experimental unit may never be accepted and integrated into the regular pattern of the user system; it may always remain in its own special location within the system without spread." (G.E. Hall, 1974, p.37/8)

The program had to be put to the test at the latest when it was to be extended to the whole teacher education at the College. It had also to demonstrate whether the efforts concentrated on staff development were a sufficient corrective to the negative aspects of the "experimental units" strategy. All in all it is true that the frame conditions of PTPP did not square with the field realities so that the following slogan coined by the Norwegian innovation researcher Per Dalin applies here too: "Pioneers stand nothing to loose but everything to win. The followers have anything to loose and nothing to win."¹

(b2) Curriculum level

The development of a new teacher training program presupposes a clear idea of what is the desired goal of this training. Although it is difficult to specify in advance the future roles and tasks of a teacher, there is, according to the project group, agreement on a certain number of points: (a) the learning process, (b) the role of the teacher and (c) the form of the school.

The project team sees the following tendencies in the above mentioned fields:

(a) The likely decentralization of information of processing and dissemination will demand more strongly personalized and individualized learning. The interactive aspects of the teaching/learning process will become all the more important.

(b) The teaching function will become accordingly more dif-

¹ P. Dalin, 1975b, p.292;
see also interview 9a, p.2.

ferentiated. Social problems and personal interests of the pupils will become more central. The teacher must therefore be able to guide individualized and personalized learning.

c) Decisive changes in the organizational environment of the school system are likely to occur. Parents, teachers, and the community will have more say. The traditional organization in classes and the corresponding division of space into classrooms is replaced with more flexible forms of organization.

Starting from this evaluation, the project team arrives at the following premises for specifying the teacher's competencies:

- "1. The teacher is a liberally-educated person with broad background in his teaching field.
2. The teacher exhibits behavior which reflects professionalism.
3. The teacher makes decisions on a rational basis.
4. The teacher reflects in his actions that he is a student of human behavior.
5. The teacher employs a wide variety of appropriate communication and instructional strategies."

(Houston/Jones/Howsam, 1973, p.100)

The College of Education, being only responsible for the professional education, which is totalling 30 semester hours of the required, 122 semester hours of credit for elementary teachers, and 18 semester hours for secondary teachers, the efforts of the College of Education can have only little impact on the implementation of the first premises.

The project is now attempting to collect a multiplicity of competencies from various sources (interviews or conferences

with experts, study of the available literature, analysis of existing programs, etc., and to examine them in the light of the above premises. The competencies selected in such a way can be grouped into 5 clusters of common objectives:

1. Personal and Professional Perceptions. In this curriculum area, students would explore such questions as "Who am I?," "How do I relate to teaching?." The purpose of the component was perceived to assist the prospective teacher to make meaningful decisions about his vocational choice. Experiences were planned to begin immediately upon induction into the program and continue until graduation and certification.
2. Psychological Ecology. The intensive study of human behavior was to be the focus of this curriculum area. Experiences, including linguistics, sociology, psychology, cultural geography, and anthropology would be explored in this component. Students would demonstrate competencies derived from each of these fields.
3. Learning Environment essentially would encompass the study of the organizational structure within which the teacher works and its ramifications for teaching. Physical facilities and other non-instructional aspects would also be included for study.
4. Curriculum Decisions. This area would focus attention on processes of goal-setting and on critical interrelationships between established goals and instructional decisions. A conceptual structure was to be developed which would allow students to perceive the values which various curriculum decisions reflect.
5. Instructional Strategies. In the fifth curriculum area, students would be expected to translate their knowledge of content, pupils, societal needs, and the environment into viable strategies and tactics of instruction. Specific study of instructional skills were also included."

(see Houston/Jones/Howsam, 1973, p.102/o3)

These are also the major topic areas of the program, which were taken up at an early stage and treated during the whole program: "It was anticipated that the content of the program would be at least as rigorous as in the present program, but fulfillment of requirements would be based on attaining competence rather than completing courses." (Houston/Jones/Howsam, 1973, p.103)

But the problem of the sequencing of competencies was not solved yet: their logical order gave no psychological order for instructional purposes. To order the competencies and, with them, the instructional programme, the "concerns model" developed by Frances Fuller¹ was taken as a basis.

Modules grouped into clusters were associated to the competencies. This led to a sequencing model with several points of decision².

The salient elements of the new programme were:

- training components related to mathematics education (i)
- the system of counselling and guidance (ii)
- the instrument for the evaluation of students' competencies (iii).

These three elements still influence PTPP today and shall be described shortly here.

1 cf. 3.2(b).

2 See annex 4. - It is important for the understanding of the flow chart to know that the five above mentioned clusters of objectives were renamed:

"Personal and Professional Perception" in "Affective"

"Psychological Ecology" in "Psychological Foundations", I, II

"Learning Environment" in "Socio-cultural Foundations", I, II, III

"Curriculum Decisions" in "Curriculum"

"Instructional Strategies" in "Teaching", I, II, III

(see: Houston/Jones/Howsam, 1973, p.105).

(1) The training components related to mathematics education

The mathematics education component of the pilot program was essentially made of a weekly 3-hour-course lasting one semester for elementary and secondary school teacher students. The fact of less time being devoted to the specific competencies compared with the normal courses was justified as follows: "... much of the normal courses is covered earlier during earlier components of CBTE." (Houston/Jones/Howsam, 1973, p.133)

This was a first characteristic of the mathematics education component: i.e. a stronger integration of the specific teaching competencies components into the generic teaching competencies components of the program.

The course had three parts. The first five weeks were devoted to an overview of mathematics education. The teaching was done at the College. The forms of teaching in this phase were lectures and small group discussions.

The following nine weeks were spent at the College and in a school. The three weekly sessions were divided according to the lecture-exploration pattern. In the exploration phase the students worked with one or more pupils under the supervision of a teacher and of the educator. This part of the course was devoted to the application of theory to practice.

The last two weeks were spent at the College; lectures and small group discussions alternated. The purpose was here to "process" the experience gained in the preceding phase and to synthesize them by linking theory and practice.

The course especially stressed the skills needed for analyzing teaching situations and diagnosing teacher behavior, which included, among others, experiences in the mathematics lab:

"One of the most important results of the university laboratory experiences for the prospective teacher is that he experiences success in implementation of a diagnostic model. Teaching in such a model allows him to identify his weaknesses

and plan and execute remediation. Further, the course itself operates as a diagnostic model at the university level. Perhaps the most significant aspect is that the prospective teacher will develop an awareness and ability to the best combinations of teaching variables appropriate for his personality. Such a program of study serves to enable prospective teachers to have a greater degree of self-confidence as they enter the classroom as beginning teachers."

(Houston/Jones/Howsam, 1973, p. 226/27)

As the second characteristic feature of this training component the three-stage-design can be marked: theory/practical/experience/synthetization of theory and practice.

(ii) The system of counselling and guidance

The student could choose between several forms of teaching and learning. He could for instance choose to take self-study modules instead of going to lectures. He could also decide which mark he was aiming at and what competencies he considered meaningful in this framework for developing his individual teaching skills¹.

The optimal use of this freedom presupposes however that in the course of the training program the prospective teacher constantly improved his capability to determine his own learning interests and to act accordingly:

"Basic to the Houston CBTE program is the proposition that teaching is an applied behavioral science and that teachers need to understand human behavior and to act in that knowledge. The role of the counselor is related to this proposition; the counselor helps the student to understand human behavior.

¹ See Houston, Jones, Howsam, 1973, p.214-219.

If an individual is to understand human behavior, an effective beginning point is self-knowledge; therefore, the counselor focuses on helping the prospective teacher to know himself better. This is accomplished in several ways: a retreat, Personal Assessment Feedback (PAF), video tape feedback (VTF), school feedback, affective modules, consultation with students and staff, and individual counseling."

(Houston/Jones/Howsam, 1973, p.228)

The retreat should help the student "to gain a greater understanding of self, to understand how his own uniqueness affects the manner in which he acts both as an individual and as a teacher, to begin working as a team member, and to gain an understanding that all (students and faculty) must work together to improve teacher education" (Houston/Jones/Howsam, 1973, p.228/9).

During this time stable teams had to be set up according to the following pattern for dealing with the whole problem: each student looked for a partner with whom he would like to work together "... and they go through exercises designed to establish trust and to encourage sharing. Following these exercises the pair chooses another pair. After this group of four participates in supplementary sharing and trusting exercises, they choose another group of four and form a team of eight ..." (Houston/Jones/Howsam, 1973, p.229). The members of a team remain together until the end of the program.

As soon as the team of eight had been set up, each student was requested to give a lesson of 10 minutes in front of the rest of the group. This lesson was video-taped and discussed by the group itself and a specialist from the Curriculum and Instruction Department and a counselor. The student was then requested to review himself his own weak and strong points under the angle of the importance they have for him as a person and as a teacher.

"At this point it is emphasized that teacher education is a continuous process - the student is encouraged to continue his exploration and his growth throughout the program although the retreat is ending" (Houston/Jones/Howsam, 1973, p.230).

The aim of PAF (Personal Assessment Feedback)¹ was to make the student more conscious of his own feelings and patterns of behavior. The following procedure was used: first, the student was administered a battery of tests. The latter were then examined by the counselor, and the results are communicated to the student in a personal counselling talk. On this occasion the student was encouraged to concentrate on his feelings, his questions, his concerns. The counselor discussed with the student his personal characteristics and how these could affect teaching; what the student can do to make the most of his strong points, how to cope with his problems, etc. It was essential that this should be done in the perspective of the students' further education and development and not of pressing for change, and that PAF should be used in conjunction with the other procedures mentioned above. "Throughout the program there is an emphasis on feelings, attitudes, behavior, and interpersonal relationships" (Houston/Jones/Howsam, 1973, p.231).

VTF (Video Tape Feedback) was used throughout the whole program. VTF helped the student see himself, with the assistance of the counselor and of the C&I specialist, as others see him. This was made easier by the distance from the real teaching situation with its pressure for immediate action, and by the fact that the situation could be reproduced as many times as was needed.

"The purpose of VTF is not to change the teaching but to help the student be more aware of his emotions and behavior

¹ A description of this procedure is given by Fuller/B. Newlove, 1970.

and how these affect his ability to relate to others. There is emphasis on helping the student to increase his awareness, not an effort to break him down. Both the counselor and the C&I specialist attempt to create a supportive, nonthreatening atmosphere."

(Houston/Jones/Howsam, 1973, p.232)

Further orientations for feedback were provided by the student's behavior in teaching situations and in the school as perceived by the C&I specialist, the counselor, the supervising teacher and the pupils themselves. This information also flowed into the feedback sessions and was incorporated into the recommendations given to the student.

The affective modules intended to help the student to understand better human behavior. They were based on the conviction that "... a teacher is a person and there is a need for a person to understand human behavior, both his own and that of others. The emphasis is that teachers do more than teach subject matter; they teach people" (Houston/Jones/Howsam, 1973, p.234).

Finally, the student was called upon to consult his counselor or any member of the teaching staff whenever he wished to do so. These consultations between the student and the educator were also designed to help to find optimal solutions for each student.

"The idea that there is no one correct decision or teaching style is emphasized; instead, each student is encouraged to make his own choices and decisions. The CBTE program stresses that there is no one ideal teacher but many effective teachers"

(Houston/Jones/Howsam, 1973, p.234).

Further, individual counseling was also available for general problem relating to the student's private life and studies.

"The emphasis of this counselling is developmental. Students are encouraged to take responsibility for their personal and educational growth with the assistance of the counselor. The counselor may assist the student through individual and/or group counselling, through consultation and through referral."

(Houston/Jones/Howsam, 1973, p.235)

(iii) The system for evaluating the student's competencies
A distinction was made between goals, competencies, subcompetencies and behavioral objectives. Whereas subcompetencies and behavioral objectives were relatively easy to measure, the measured evaluation of goals and competencies was more difficult. Experience has shown, it was pointed out, that competencies couldn't be evaluated by direct methods.

"For each competency, a set of indices were generated. No single indicator would signal competency, but the configuration of them did suggest that the competency had been demonstrated.

Data were collected on selected indicators. These data then were analyzed and, in conjunction with an analysis of data on other indicators, a decision was reached relative to competency demonstration."

(Houston/Jones/Howsam, 1973, p.238)

The "Proficiency Analysis Rating Instrument"¹ devised in such a way is made of 3 components:

- (i) the formulation of the competency in question;
- (ii) the listing of the indicators for this competency (according to 3 categories);
- (iii) the rating scale, which forces to give a global evaluation of the indicators and an appreciation of the competency in question.

¹ The Proficiency Analysis Rating-Instrument is included in attachment 5 in its original version.

The indicators were organized according to the following schema:

pre-active indices	active indices	
	teacher	pupil

The high quality of the pilot program is generally pointed out: "I believe that the model program you had in 1970/73 was an ideal coupling of CBTE and personalized teacher education, perhaps the best we ever had. You had highly qualified counselors, teamwork, you had field experience, training units, feedback, modules, etc. ..." (interview 5, p.14/15). However, evidence was still lacking that this program could be implemented under real field conditions, i.e. at the College as a whole.

4. THE IMPLEMENTATION PHASE

4.1 The framework of educational policy

On June 10, 1972, the Texas State Board of Education passed new standards for the training and certification of teachers in Texas. These replaced the "Standards for Teacher Education in Texas of 1961".

As has been described under 3.1, the Texas Education Agency, the competent administration for all questions regarding education and certification of school personnel in the State of Texas, had already set up two committees of experts in 1969 for preparing a revision of the standards. At the same time, the Texas Education Agency supported a model program for the development of prototype CBTE programs at various Higher Education institutions in Texas. The pilot program of the College of Education of the University of Houston is one of these programs².

The new standards, whose essential components are described below, were tantamount to a state-ordered general introduction of CBTE in teacher training in Texas. According to these standards, after a period of transition only competency-oriented teacher training programs were to receive the approval of the State.

¹ Texas Education Agency, Austin, Texas, Bulletin 651, case 1961; referred to as "old standards" in the following. The old provisions were not abolished totally; at first, only the old standards 1-6 (Basic Considerations, Preparation of Faculty, Teaching Load, Student Personnel, The Library, Professional Laboratory Experiences and a great part of 8 (graduate programs) were replaced with new ones. However, the replacement of the other standards, standard 7 (instructional patterns-teacher education programs at undergraduate level) and the remaining part of 8 (graduate programs) were announced simultaneously; see letter of the Commissioner of Education J.W. Edgar of June 28, 1972, notifying the new standards to all teacher training institutions (in: Texas Standards ..., 1972).

² For the historical background of the new standards, see Tom T. Walker: Texas Teacher Education/Certification Project. In: PBTE (published by the Multi-State Consortium on Performance-Based Teacher Education) April 1973, p.1-3 and Houston/Howsam 1974, p.300.

This did not only refer to the professional education but to all components of the training, including the general education components and the academic education in the subject of instruction.

It became clear, that the content of the new standards was in line, in its general features and sometimes even in its details, with the ideas of the group interested in CBTE at the College of Education of the University of Houston.

The mandatory introduction of the new standards in Texas had deep-going repercussions on the innovation process in Houston and set an important framework for the implementation phase. In the following, we shall first examine the content of the new standards in its essentials (4.1.1); then we shall describe the educational controversy over the new standards (4.1.2); finally, we shall turn to the foundation of the Houston Area Teacher Education Center (HATEC), which originated in the new standards (4.1.3).

4.1.1 The new Texas Standards for Teacher Education and Certification

The new Texas Standards for Teacher Education and Certification¹ contain three parts: the first part (organization and procedures for approval of teacher education programs) lays down the institutions and procedures by which the State of Texas is to provide for the certification of school personnel²; the second part (Standards for Institutional Approval for Undergraduate Level Teacher Education in Texas) specifies the minimum requirements for an undergraduate teacher training program; the last part (standards for institutional approval for graduate level preparation of school personnel in Texas) contains the minimum requirements for the graduate

1 Texas Education Agency, Austin, Texas, 20 June, 1972; referred to as the new standards in the following.

2 Besides the certificates corresponding to our German certification, there is a great deal of "professional certificates" in Texas such as "counselor" "instructional officer", "educational diagnostician" "evaluation specialist", "mid-management administrator", "super-intendent", "supervisor" certificates. Corresponding provisions are grounded in the laws; see the 1955 Law on Certification of School Personnel, Vernon's Ann.Civ.St. Article 2891b.

program¹.

The major differences as compared with the old standards are in the standards for the approval of teacher training programs² (a) and in the related system of management and control (b). In the following these shall be summarized in this order. The ordered transitional provisions will then be set out (c).

(a) Changes in the standards for the approval of teacher training programs

First, the standards seek to improve the status of teacher education in Higher Education in general. Teacher education, traditionally underprivileged as against other comparable courses of studies³, should be brought nearer to the training programs of other professions (physicians, lawyers etc.): "The internal organizational structure provides for the teacher education component of the institution status comparable to that provided for other professional programs of the institution."⁴

The improvement in status is especially reflected in that teacher training programs have to meet higher requirements regarding material, financial and personnel resources in order to receive State approval.

Besides requirements concerning premises and equipment⁵ (media, media lab, library with curricular materials and text books),

1 Not only for teachers but for all school personnel; see footnote 2, p.50. The related provisions are not considered in the following as they are not significantly different from those of the second part (undergraduate level).

2 They are valid for 5 years.

3 The following data show how much teacher education programs are underprivileged as compared to the average of other professions across the USA in 1976: "Across the 52 institutions examined, the cost of education programs for each FTE in most institutions appears to be about \$ 1.300 \$ 1.500 per year for all four undergraduate years. Cost in other human services professional or preprofessional areas tend to be considerably higher: \$ 1.300 \$ 1.800 per FTE major in the freshman-sophomore courses and \$ 2.000 \$ 2.800 in junior-senior ones." (Study Commission on Undergraduate Education and the Education of Teachers, 1976, p.63/64.

4 Texas Standards, p.13.

5 Texas Standards, p.23.

requirements are also made concerning the financial resources, which should not only allow the staging of teaching activities, but also finance development work and experiments¹.

Standards for comparison are provided by the education programs of other professions at the various universities:

"The budget for instructional services is adequate to supply the needs of the teacher education program and is at least on par with that provided to other professional programs of the college/university."²

The academic qualification of educators has to meet high requirements. At least 30% of the teaching staff of a training program and one representative of each discipline involved must have a doctorate degree (formerly 25%).

Additional field qualifications are required from the educators in charge of the professional education, which they must keep up to date through regular participation in school activities at the level for which they train teachers. But field qualifications are also required from those educators who are not involved in the professional education. It must be especially ensured that "the director of an area of specialization for a teacher education program has appropriate experience on the level for which he is preparing teachers."³

Further, the new standards stipulate that only training programs from training institutions which are entitled to grant academic grades of the corresponding level can seek approval: "The institution seeking approval for undergraduate level teacher preparation shall be a fully accredited degree granting institution of at least the baccalaureate degree level."⁴

Beyond the general improvement of the status of teacher training as compared to other professional trainings the

1 See the determinations of the "Standard I" (General Strengths and Basic Considerations), Texas Standards ..., p.12/13.

2 Texas Standards ..., p.25.

3 Texas Standards ..., p.20.

4 Texas Standards ..., p.12.

standards also lay down that the professional education component, i.e. mainly at the College of Education¹, shall play a dominant role in the design of the whole teacher training program, a dominant role also as against education in the instructional subject, although the latter accounts for a larger proportion of the education program.

Thus, a teacher training institution seeking approval by the State must meet the following requirements: "It provides an organizational structure which vests responsibility for the initiation, development, determination, coordination, evaluation, and administration of the total teacher preparation program in the professional education faculty of the institution."²

"All approved teaching field programs and areas of specialization are developed under the leadership of the teacher education component of the institution with cooperative advisement from the academic area department offering the teaching field and from the school level for which teachers are to be prepared."³

The general responsibility for teacher education is with the Dean of Education: "The preparation of teachers is a responsibility coordinated and administered by the Dean of Education, Chairman of Education, or Director of Teacher Education of the institution."⁴

As compared to the old standards, this was a significant strengthening of the College of Education, or of the professional components, especially against the academic ones. In the old standards the Dean of Education had only a coordinating role in the teacher education program: "The coordination of the total teacher education program, including areas of specialization, shall be under the direction of the head of the college, school, division, or department of

1 The internal organization of the universities in Texas being multiform, the designation of the organizational unit responsible for professional education is variable. For the sake of simplicity we will use the designation "College of Education" in the following.

2 Texas Standards ..., p.13.

3 Texas Standards ..., p.13.

4 Texas Standards ..., p.13.

education who holds an earned doctorate."¹

The most profound change as against the old standards is that the competency-orientation of the whole curriculum of a teacher training program seeking approval is mandatory.

"The institution seeking approval for undergraduate level teacher preparation shall provide teacher education curricula based upon objectives reflecting the institution's concept of the teacher's role and of the role of education in society ..."²

"Admission to teacher education, retention in teacher education, recycling in teacher education, redirecting from teacher education, and evaluation for certification are based on competency-based criteria."³

The obligation to be competency-based not only relates to professional education; it is extended to all educational components: "The program of teacher preparation including general education, pre-professional studies, professional studies, and content for the teaching specialty are designed to accomplish designated and specific competencies."⁴

It is expressly prescribed that the education program as a whole shall not be conceived of as a sum of independent components but that the components shall be linked in a systemic network: "The institution seeking approval for undergraduate level teacher preparation shall assure that it provides a systemic program of teacher education."⁵

"The program of teacher preparation is designed to make it evident that its general education, pre-professional studies, professional studies, and content for the teaching specialty are designed as parts of a whole program of preparation for public school positions rather than as separate entities."⁶

1 Texas Standards ..., p.8.

2 Texas Standards ..., p.14.

3 Texas Standards ..., p.22

4 Texas Standards ..., p.14.

5 Texas Standards ..., p.14.

6 Texas Standards ..., p.14.

This means in particular that not only the organization of the general and the academic education shall be vested in the Dean's responsibility but that the content shall also be oriented to the general goals of the teacher education program: "The institution seeking approval for undergraduate level teacher preparation shall

- provide a general education program designed to develop basic competencies required for a teacher ...
- provide teaching specialty curricula which are designed for Texas public school positions and which include the study of the content to be taught to pupils and supplementary information to provide for perspective and flexibility in teaching."¹

The significance of field experience in such a uniform and coherent teacher education program is especially stressed in the new standards: "The institution seeking approval for undergraduate level teacher preparation shall provide as a part of the professional component a planned sequence of field experiences in a school setting at the level(s) for which the student is preparing to teach."²

The field components shall also be oriented to the acquisition of specified competencies: "Each teacher education student participates in an elementary/secondary teaching situation long enough to develop competencies to perform the responsibilities of a professional, and this participation is for at least eight weeks on a full-day basis or sixteen weeks on a half-day basis, the half-day consisting of at least three consecutive hours."³

1 Texas Standards ..., p.15/16. The old standards only prescribed a certain number of hours and proportions of the total program for the general and the academic education - which have been taken over unchanged in the new ones - but gave no indication about the orientation of the content of these components.

2 Texas Standards ..., p.17.

3 Texas Standards ..., p.17. The old standards only said: "Professional laboratory experiences, which consist of actual and direct contacts with children and youth in school, home, and community, are an integral part of the well-planned program of teacher education." (Texas Education Agency, 1962, p.14)

Although the individualization requirement, often tied to CBTE, is not explicitly included in the standards, it is embedded in the provision that a comprehensive counselling system should be set up: "The institution seeking approval for undergraduate level teacher preparation shall provide an organized and coordinated program of student development services for teacher education which identifies the teacher education student; aids in the personal growth and development of the student; facilitates the vocational educational and personal choices of each student; ... extends guidance throughout the teacher education programs; provides information to potential employers about the potential of the graduate; and provides evaluation of the program on the performance of the graduate."¹

Finally, a new important requirement as against the old standards is the inclusion of components for multicultural education².

"The institution seeking approval for undergraduate level teacher preparation shall design its program of general education so that each student recommended for certification shall have a knowledge and understanding of the multicultural society of which he is a part."³

The requirements concerning goals and content of all teacher education programs seeking approval along the lines of the standards of the State of Texas, namely,

- competency-orientation of the whole program,
- individual guidance of students,
- emphasis on multi-cultural education,

fall in line to a large extent with the goals for the development of the pilot program at the College of Education of the University of Houston⁴. Whereas the latter only relates them to

1 Texas Standards ..., p.21.

2 See chap. 3.1(c).

3 Texas Standards ..., p.15.

4 See the goals of the "Trainers of Teacher Trainers Project" (TTT), chap. 3.3(b), especially the goals for program development. We may consider that the development in Houston has exercised a decisive influence on the new standards of 1972, at a time when the most prominent experts of Texas were engaged in the development of the pilot program.

professional education, the State standards extend them to the process of education as a whole.

(b) Changes in the system of management and control

The new standards provide that teacher education should be increasingly in the joint responsibility of all institutions and groups involved. An organizational framework for the development and approval of education programs should be set up, they say, where not only Higher Education institutions but also the schools, the professional organizations of teachers and school districts should be made to participate. The goal was "... to establish a new cooperative structure for the development and approval of programs of preparation of school personnel"¹

Whereas the decision about the approval of teacher education programs remained with the State of Texas, the importance of the counselling function of schools, of the universities and of the profession, was more strongly emphasized: "The certification of teachers and other school personnel is based upon approval by the State Board of Education of institutions of higher learning for teacher preparation and of specific programs offered by the institutions.

Although the certification of teachers and other school personnel is legally a responsibility of the State, it is desirable that the State have continuous advice and counsel from the total profession, the schools, and the institutions of higher learning involved in teacher education in order that the total teacher education-teacher certification process may be kept responsive to the needs of the State."²

For developing the pursued global structure of cooperation it was planned to expand or restructure the existing institutions and forms of organization and to set up new bodies. The main provisions related to:

¹ Texas Standards ..., preface by the Commissioner of Education.

² Texas Standards, p.5. - In the old standards higher learning and the profession were not mentioned as counselling agencies.

1. The Local Cooperative Teacher Education Centers (LCTECs)

The LCTECs constitute the most important organizational basis for cooperation between teacher education institutions and the schools, the school districts and the local teacher associations. "The Local Cooperative Teacher Education Center is a cooperative effort of the initiating college/university or consortium of colleges/universities, the local school district (LEA) or consortium of school districts, and the local professional organization(s)."¹

All training institutions must be affiliated to a LCTEC, but several higher learning institutions may initiate jointly the foundation of a LCTEC. The provisions on the establishment of LCTEC originated in the Senate Bill 8 of 1969, which set out that a committee of delegates from the schools, the school districts and the College of Education should be set up for each education institution in order to coordinate the field training. However, the standards even go beyond the Senate Bill 8 insofar as they additionally require the participation of delegates of the professional associations: "Senate Bill 8 implementation is to be the basic minimum requirement of the Local Cooperative Teacher Education Center. In addition, it will have representation of local professional organization(s) selected by the college(s)/university(s) in consultation with the local school district(s)."²

The following provisions govern the setting up of a LCTEC:

- "a. Initiative for organization to be the responsibility of a college/university.
- b. Organization to be based upon a contractual agreement between a college(s)/university(s) and a local school district(s).
- c. Participating members to be one or more colleges and/or universities, one or more local school districts and one or more local professional organizations.
- d. Local professional organizations invited to participate

¹ Texas Standards, p.8.

² Texas Standards, p.8.

are selected by the college(s)/university(s) in consultation with the local school district(s)."¹

The internal organization and the make up are to a large degree in the responsibility of the individual LCTECs themselves. The tasks of the LCTEC are specified as follows:

- "(1) To serve as a base for studying local teacher education program needs.
- (2) To plan with the local school district(s) the facilities, supplies, equipment and services, provided by the local school district for student teaching and paid for with the \$ 50 per supervising teacher as provided in Senate Bill 8.
- (3) To advise the college(s)/university(s) on matters regarding teacher education/certification programs.
- (4) To advise the local school district(s) on matters regarding student teaching and field experiences for teachers in preparation.
- (5) To advise the local school district(s) and college(s)/university(s) on in-service programs for supervising teachers and college representatives.
- (6) To develop procedures for recommending the supervising teachers from the local school district(s) to serve in the student teaching program.
- (7) To involve other agencies and groups to serve in resource and advisory capacities as agreed upon by the participating members."²

2. The State Commission for Professional Competencies

The setting up of the State Commission for Professional Competencies is provided for the first time by the new standards. It results from the CBTE orientation of the new standards. The Commission is above all intended to prepare decision making. Its tasks are the following:

- "(1) To receive information, position statements, and recommendations concerning professional competencies from the various professional associations.
- (2) To identify a system of competencies for the various categories of teaching performance.
- (3) To recommend state-wide competency guidelines to the State Board of Examiners for Teacher Education.

¹ Texas Standards p.9.

² Texas Standards p.9.

- (4) To recommend to the State Commissioner of Education the professional organization representatives for membership on the State Board of Examiners for Teacher Education.
- (5) To involve other agencies and groups to serve in resource and advisory capacities as the need arises."¹

22 of its 30 members represent the schools, 6 are delegates of higher learning. Whereas 4 of these 6 seats are reserved for the College of Education, no single one is expressly allocated to the academic disciplines.

3. The State Board of Examiners for Teacher Education

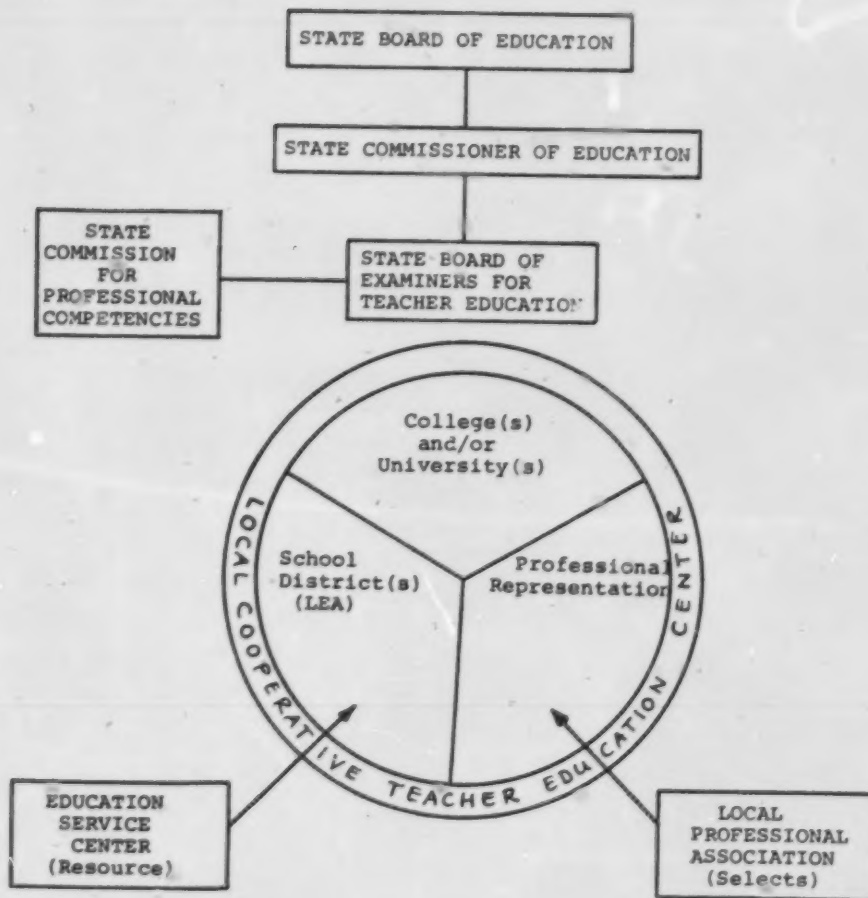
This commission, which is responsible for the practical implementation of the standards, already existed before 1972. The new standards only affected its make up. The number of its members was raised from 14 to 27, 5 representatives of the professional associations being included for the first time. Of these 27 seats, no single one is expressly allocated to the "Arts and Sciences" (the academic subjects), which had still one seat before 1972. The significance of this commission regarding educational policy was stressed as can be seen e.g. from the fact that the Commissioner of Education is a member of the commission because of his function.

Figure 1 illustrates the interactions of the various institutions participating in the process of teacher education.

All in all, the organizational provisions sketched above brought about a shift in the relative influence of the different groups involved in teacher education. The influence of the schools is increasing as against that of higher learning just as the influence of the College of Education is growing relative to that of the academic subjects. For the first time, a formal influence is conferred upon the professional associations.

¹ Texas Standards ..., p.8.

Fig. 1 : The Teacher Education Government and Control System in Texas ¹



¹ See Texas Standards, p.11.

(c) Transitional provisions

Transitional regulations were layed down together with the new standards. They prescribed that all programs for which approval was sought¹ should be "competency/performance-based" in accordance with the new standards of September 1., 1972. For all other programs, a one/two year moratorium was running from that date on. It was to be used for developing a CBTE program and founding a LCTEC. A report "showing what changes have been made in the institution in order to meet the revised standards"² was to be submitted at the end of the first year. A period of 3-4 years was granted for the subsequent implementation. September 1/1977, was the date "by which all programs for preparing teachers and other school personnel must be competency/performance-based."³

1 This must happen every five years at the latest.

2 Texas Standards ..., p.2.

3 Texas Standards ..., p.4.

4.1.2. The educational controversy concerning the new standards

The passing of the new "Texas Standards for Teacher Education and Certification" evoked surprise, dismay, protests and violent discussions in most of the 60 Texas higher learning institutions involved in teacher education, although the work of the committee entrusted with the revision of the standards had been going on for several years and that it was clear from the whole activities of the Texas Education Agency for the reform of Teacher Training that the introduction of a competency-based teacher education was at stake.

"Despite experimentation with C/PBTE in pilots in five of the 60 teacher preparation colleges and universities in the state; despite the work over a three-year period of a special agency task force in designing new certification standards on the basis of C/PBTE; despite expenditure through the agency of upwards of \$ 4 million in U.S. Office of Education grant funds alone to explore the concept, clarify its ramifications, publicize the results through conferences and a series of publications done with the cooperation of AACTE -- despite all of this, the new standards hit the campuses of Texas with an impact like that experienced when the Japanese hit Pearl Harbor. And on the 'morning after' the sentiment throughout the state bore some similarity to the trauma of the Americans on December 8, 1941."¹

"The main resistance against the standards came from the academic disciplines whilst the education community agreed cautiously and reservedly : "Strongest opposition has come from professors in the disciplines and from organizations to which they belong. ... Various groups have petitioned Commissioner Edger to set aside or defer implementation of the Standards. After a period of cautious inaction, the deans of education resolved on October 21, 1973, to support the movement."²

¹ E. Sandoz 1974, p.304.

² Houston/Howsam, 1974, p.299.

One of the reasons for this shock was that the academic disciplines had had virtually no saying in the development of the new standards, although they accounted for 85% of the course offerings for teachers and had been among the most hit by the new standards. The academic disciplines had not a single delegate in both commissions entrusted with reforming the standards¹.

The lack of participation of the academic disciplines in the discussion over the preparation of the new standards is also pointed out by W.R. Houston and R.B. Howsam from the College of Education of Houston University, two leading advocates of CBTE in Texas: "It is true that the extensive Texas dialogue over new teacher education standards has tended to leave out the academic side of the university community."²

Yet, this had not been intended, they said; rather, the poor participation of the academic side was due to its lack of interest in teacher education: "This was not deliberate; indeed, quite the opposite was true. But it is a fact of teacher education life that on most campuses it is taken for granted that the disciplines put little effort into the education of teachers as such."³

The little interest of the scientists from the academic disciplines for the work of the Texas Education Agency may be due to the fact that many of them had many reservations against CBTE⁴.

1 An accurate list of the members is available in the Report of the Committee to Study Standards for Teacher Certification in Texas and of the Commission to Study Standards for the Preparation of School Administrators of March 1, 1973, to the State Commissioner of Education Dr. J.W. Edgar.

2 Houston/Howsam, 1974, p.301.

3 Houston/Howsam, 1973, p.301.

4 The experience was made in connection with the development of the pilot-program in Houston that the representatives of the academic sciences recognized the importance of teacher education but were not prepared to support actively the approaches of the pilot-program, see chap. 4.3(b).

These reservations, which for a long time had manifested themselves through passive resistance and a refusal to take notice of the developments at the Colleges of Education were voiced vehemently and aggressively as soon as the concept was to be applied to the academic disciplines. "It must be said ... that few among the opponents ~~of~~ the standards (the overwhelming majority of academicians in Texas Colleges and Universities) regard C/PBTE as much more than a half-baked idea. Indeed, it is seen to be a rehash of the familiar old educationist 'behavioral objectives' decked out in new semantic attire, heavily indebted to nineteenth-century positivism, to the now outmoded behaviorism of the social sciences, and to the embattled behaviorism of the Watsonian-Skinnerian wing of operant psychology."¹

The main objections were not directed to the competency-orientation required by the standards - a great number of these objections could be rejected by the CBTE proponents - but to the mandatory introduction of an education model and the systemic nature of the education programs. So E. Sandoz, one of the most prominent speakers for the scientists from the disciplines, saw in the following the major motive for this opposition against the standards: "The first is the well-nigh universal judgment that it is deeply repugnant and simply indefensible to mandate from on high any one approach to teacher preparation, to attach to that mandate strict enforcement procedures and an ultimatum either to submit or be crushed! The second is the objection to the 'systematic' or 'total' nature of the demands made under terms of the new standards."²

The academic community of the country, with the exception of the educational scientists, joined in opposition³. They

¹ E. Sandoz, 1974, p.305, see also criticism of the CBTE concept in W.D. Maxwell, 1974. The following presentation of the controversy is mainly based on a discussion in the journal Phi Delta Kappan between W. Robert Houston and Robert B. Howsam as representatives of the education community and E. Sandoz and W. David Maxwell as representatives of the academic disciplines.

² E. Sandoz, 1974, p.304/305.

³ E. Sandoz also states that most education faculties of Texas approved the new standards, or that they were, at least, not opposed to them. However he attributes them shiny reasons ("... for reasons one can surmise and which do not always bear close scrutiny", E. Sandoz, 1974, p.305).

could use the arguments which had been put forward by different "learned societies" in their protest resolves against the CBTE movement in and outside Texas. Such resolves had been released by the Southwestern Social Science Association, the American Historical Association, the American Political Science Association and the American Association of University Professors, the most active in the matter, especially through its association organ "Academe"¹.

The arguments of this resolve are mostly directed to the limitation of academic freedom. CBTE was "inimical to the most rudimentary academic freedom of individual professors, and destructive of the autonomy and integrity of colleges and universities in curricular matters,"² it said.

The curtailment of academic freedom was seen as the starting point of threatening developments in higher learning: "If an agency of the government can mandate C/PBTE today, it can mandate anything else at will tomorrow - dialectical materialism, Maoism, Birchism, Nazism, Castroism, or fascism."³

The new standards also ran counter to those of the academic faculties from another point of view. They contained rules for the approval of teacher education programs demanding shifts in the balance of power in higher learning - to a large degree independent of the CBTE concept itself. This is the case for the allocation of resources within the higher learning institutions and for control over teacher education.

The funds for teacher education are not allocated by the State Board of Education or the Texas Education Agency but through a separate institution, the Coordinating Board of the Texas College and University System. The latter is responsible for the whole sector of higher education and allocates the resources

1 See Houston/Howsam, 1974, p.299; E. Sandoz, 1974, p.305/306; W. David Maxwell, 1974, p.311/334).

2 Resolution of the Southwestern Social Science Association, quoted in E. Sandoz, 1974, p.306.

3 E. Sandoz, 1974, p.306. In his pamphlet the author sees even a threat to the fundamental values of the American constitution and quotes Burke: "As Burke once wryly said of the Americans, 'Slavery they can have elsewhere'." (306)

to the individual institutions, which take care of the internal distribution.

The new standards brought a considerable increase in the costs of teacher education. These additional costs cannot be born by individual universities unless they change their internal allocation system.

"An increase in the cost of teacher education means loss of available resources for other university units. Small wonder, then, that presidents and faculty have demanded to know who is going to pay the piper for the tune which the new standards mandate. No answer has been forthcoming to date."¹

Yet, for obvious reasons, the readiness to change the allocation pattern is scant in the academic faculties: "The university may expect to face the reality of a need for somewhat greater allocation of student time and economic and other resources to professional education in order to permit strong professional programs. Since teacher education students have always been a major part of the credit hours generated in the disciplines, any reallocation produces problems."²

The standards themselves do not take immediately into account this problem, though in view of the factual balance of power within the universities, a "voluntary" reallocation of resources could not be expected. Otherwise the standards provide for change in the system of management and control of teacher education: the educational sciences were given more weight against the academic disciplines, the teaching profession against the academic community. This was perceived by the opponents of the standards as a seizure of power by the profession and as a further limitation of their academic rights: "The move to the new standards is a perceived power grab achieved by a sleight-of-hand shift of control over certification and programs from the universities to extra-university bodies - the LCTECs professional teacher associations, and

1 Houston/Howsam, 1974, p.303.

2 Houston/Howsam, 1974, p.302.

the bureaucracy of the agency itself. More even than this, opposition is also based on the newly declared supremacy of control vested in the deans and faculties of education within each institution, at the expense of the other deans, their departments, and faculties."¹

The advocates of the standards do not deny this; yet they point out that 75-85% of the semester hours in teacher education had been in the academic disciplines.

"Of the 120-130 semester hours of credit needed by a teacher for a degree and a teaching certificate, only between 18 (for the secondary certificate) and 30 (elementary) are in professional education. Thus between 90 and 112 hours are in disciplines usually known as arts and sciences. Fifty to 60 hours fulfill the general education requirement; another 40 to 50 hours are in the subject(s) which the teacher will teach. In many institutions even allocation of the few available elective hours is controlled by people in the academic disciplines."²

This, they said, was a gross neglect of the professional needs of the teaching profession; teachers students were exploited by the academic subjects in a way that was socially unacceptable: "... it remains difficult to defend the continuance of a professional program which requires teachers to have only from 15-25% of their degree and certification program targeted toward their professional needs. From a professional point of view this is academic exploitation to a degree not found in any other profession. From the perspective of a nation bent on effective schools or of a profession determined to upgrade its ability to serve, it is intolerable."³

Control over teacher education exerted so far by the State administration or the universities, should be increasingly

1 E. Sandoz, 1974, p. 305.

2 Houston/Howsam, 1974, p.301.

3 Houston/Howsam, 1974, p.302.

with the profession itself, they said.¹

"State and local governments (school districts, schools) have controlled the teachers in service while higher education institutions and government have dominated teacher education and licensure. Teacher organizations have had little effective voice in either place. The present thrust is toward a more even balance in control than now exists."²

The need for more control by the profession itself is justified by the special conditions of professional life. The confidence enjoyed by a profession regarding professional competency in vital areas of society must be justified by a control of the minimal competencies of its members. Yet, the efficiency of this control is highly dependent on the collaboration of practioners and professional organizations. Whereas in other professions control is exercised through the regulations governing the admission to the profession, in teacher education, only a control over the education program is possible now, it is said. Teacher education is thus torn between the contradictory interests of the profession and of the "academic community": "Academic freedom is the sine qua non of the academic community. But universities are complex institutions which encompass both the academic and the professional. Both share the need for freedom to search and to question. The professional school, however, is constrained by the need to deliver competent practitioners who are 'safe' to enter service."³

¹ Yet it is pointed out that the standards provide for a still lesser influence of the profession. The professional associations, and especially the National Education Association, follow a far more radical course concerning control over teacher education: "The organized profession has taken a strong stand on professionalization. The National Education Association has developed a model professional practices act and is seeking its enactment in every state. Some states already have adopted it. The act turns over certification and control of teacher education to a professional practices board made up largely of practicing professionals. The state of Texas so far has opted for a much milder course of action. The teacher centers in Texas are advisory bodies which foster collaboration between and among the parties. Control is left in the hands of the university. Failure to make the collaborative model effective almost certainly will lead to the enactment of a full professional practices act." (Houston/Howsam, 1974, p.301).

² Houston/Howsam, 1974, S.302.

³ Houston/Howsam, 1974, S.302.

But, the teaching profession differs from other professions insofar as it depends on scientific foundations in two respects: On the one hand, teachers must be qualified for their professional activity, their teaching; on the other hand, they must be educated in the scientific disciplines which are the content of their teaching.

"Teaching is the only profession which requires mastery of one or more disciplines as a discipline. All other professions draw on disciplines only as they contribute directly to the knowledge base for professional practice. Teachers are professionals and must be taught to teach. For this they need education in the disciplines that undergird the profession (sociology, philosophy, psychology, anthropology), plus professional education in classroom management, instructional strategies, curriculum development, etc. But they have to teach something. Hence the requirement of teaching majors."¹

This breeds problems with respect to the allocation of resources (wrangling between the education and the academic departments over hour credits and resources), control over the content of the education/scientific/professional academic ratio, and the frame conditions of educational freedom (academic freedom vs. competency control).

The problems inherent in the professionalization efforts became more baffling as they were blended in the standards to the problems linked to the CBTE concept itself: "This seeking for professional status and for the self-governance it implies is responsible for a large part of the controversy within which CBTE has been imbedded. There are enough issues with respect to CBTE itself without the addition of others. The fact is, however, that the new Standards link the separate issues into a complicated tangle."²

We may consider that the violent controversy was less set off by the opposition to the CBTE concept than by the pro-

1 Houston/Howsam, 1974, p. 303.

2 Houston/Howsam, 1974, p. 302.

professionalization claim made in the standards by the teaching profession.

"The overriding issue is professionalization. Teachers long have claimed that their calling is a profession. It has proven easier to state the claims than to achieve the necessary conditions of a profession, however. Cultural factors, coupled with forces within the academic community and the profession, have militated against it. The difficulty of establishing an adequate validated knowledge base for professional practice long has stood in the way. The belief that teaching can and must be professionalized is stronger today than ever, however; CBTE is seen by many observers as the most promising vehicle yet devised for achieving this status."¹

For the proponents of the standards CBTE was not so much a goal in itself than a means for achieving professionalization.² The development of the controversy shows that even the opposition was aware of this. Yet this is the very point where they got a purchase for warding off the professionalization claims. Under the pressure of a Texas House of Representatives resolve, of the unrelenting opposition from all areas of the country academic community and of the persistent criticism by the most prominent learned societies in Texas, the State Commissioner of Education, J.W. Edgar, requested the Texas Attorney General, John L. Hill, on August 9, 1973, to comment on whether he and/or the State Board of Education had transgressed his/their powers with the passing of the new standards. He wanted to know in particular:

- "1. Is it within the authority of the State Commissioner of Education and/or State Board of Education to include in the provisions for approval of teacher education programs the stipulation that the higher education institutions seeking approval must present a performance based application for approval?
2. If the answer to No. 1 is in the negative, is it within the authority of the State Commissioner of Education and/or the State Board of Education to include in the provisions for approval of teacher education programs two or more alternative plans, only one of which would be performance based, wherefrom the higher education institution may elect to use the alternative of its choice as a basis for presenting an application for approval."³

1 Houston/Howsam, 1974, p.303.

2 It is the professionalization interest of the teacher profession as a whole which is represented here, see also chap. I.3 of my dissertation.

3 J.W. Edgar, Commissioner of Education, and John L. Hill, Attorney General of Texas, Austin, Texas, 9. August 1973; quoted in: Tom T. Walker, 1974, p.4.

In his answer dated January 4, 1974 (Opinion No H-197), the Attorney General J.L. Hill made a detailed statement on the Texas Board of Education authority, answering in particular the two above questions: "Under present Texas law, it is not within the authority of the State Board of Education or the State Commissioner of Education to stipulate that institutions seeking approval for teacher education programs must present 'performance-based' applications, but the Board, with the advice of the Commissioner, may promulgate rules and regulations whereby institutions seeking such approval (one of which might be 'performance based') and submit applications accordingly."¹

This decision virtually rescinded the legally ordered introduction of the CBTE concept- and thereby all regulations concerning CBTE in the new standards. In particular any intervention by the educational sciences and the profession was made impossible in the general education and in the academic education components. Hence the academic community had thwarted the efforts towards professionalization. Even before the Attorney General's stand had been put out the State Board of Education had already decided a partial back down on October 7, 1973, in view of the close opposition by the academic community: the "general education" component was removed from the competency-orientation claim². Yet even this reduced claim could not be maintained.

A corresponding revision of the new standards has not been forthcoming yet (October 1976).

¹ J.L. Hill, quoted in: Tom T. Walker, 1974, p.4.

² See E. Sandoz, 1974, p. 305, footnote.

4.1.3 The foundation of the Houston Area Teacher Education Center

In spite of all protests the new standards remained valid nearly uncurtailed, for 1 1/2 years. For many teacher training institutions the moratorium had already expired when the decision to abolish the decree was taken by the Texas Attorney General. By then (January 1974) the Local Cooperative Teacher Education Centers (LCTEC) prescribed by the standards had been established throughout Texas, that is about 40 of them, so that each of the more than 60 teacher training institutions in Texas were affiliated to a LCTEC.

The effectiveness of these counselling and coordinating agencies is heavily dependent on local conditions: "Most LCTEC in Texas are relatively ineffective. This is not surprising as, from the point of view of task and design, the LCTEC is a rather reactive body, which can limit its counselling activities to technical-organizational questions, and often does so." (interviews 7, p. 1). The LCTEC of the Houston University, the Houston Area Teacher Education Center (HATEC), is an exception in this respect. It had a strong impact on the developments in Houston. "Fundamental changes in the program concepts have only been insofar forthcoming as the Teacher Center (reference is made to the HATEC; D.V. has exercised a real influence" (interview 9b, p. 3) "The major task of the Teacher Center (HATEC again) is to facilitate the establishment of external contacts between PTPP and the schools, the school districts and the professional associations, and to secure the input. Both are functioning well in Houston" (interview 15, p.1).

To the Houston Area Teacher Education Center (HATEC) are affiliated: the University of Houston, all 18 school districts of the Houston area, the 18 sub-associations of the Houston Teachers Association represented in these districts, as well as related metropolitan agencies such as the Region IV

Educational Service Center¹.

The purpose and the organizational principles of HATEC are formulated in the statutes drawn up by the Center itself:
"The major purpose of the Center is to improve the education of children and youth through improved education of those persons working with them in schools." (Houston Area Teacher Education Center, p.1)

In analogy with the tasks of the LCTEC stated in the new standards, it is further specified:

"More specifically, the Center will focus on the following purposes:

1. To study programmatic needs for preparing professional education staff in the Houston metropolitan area.
2. To advise the University of Houston on matters regarding teacher education/certification programs.
3. To advise member school districts on matters regarding field experiences for teachers in preparation.
4. To plan with member school districts the use of facilities, supplies, equipment, and services which support field experiences.
5. To develop procedures for recommending supervising teachers and other personnel serving in the preparation program.
6. To advise member school districts and the University of Houston on inservice programs for supervising teachers and college representatives."

Houston Area Teacher Education Center, p.1/2)

1 See Houston Area Teacher Education Center, p.2-6. - It has already been said (see 4.1.1) that the standards left the internal organization to a large degree to the individual LCTEC. Whereas, in Houston, the foundation of a LCTEC was initiated by the University of Houston, as set out in the standards, this did not have to be the case elsewhere. Particularity unusual is the example of San Antonio. There the regional Educational Service Center became the crystallization point around which many universities, 13 school districts and the represented professional associations came together (see interview 7, p.1/2).

HATEC comprises the following bodies:¹

- (1) the Council, made of representatives of each affiliated school district, the university, the professional associations and of other groups of the educational sphere;
- (2) the Operations Council, made of 18 representatives: 6 from the university, 6 from the school districts and 6 from the professional associations;
- (3) the Teacher Center Coordinating Committees, to be set up for each of the 18 affiliated school districts, and made of at least one representative of the corresponding school district, of the local professional association and of the Houston University.

The most important organ for the effectiveness of HATEC is the Operations Council, which meets at least twice a month. Representatives of the Houston University who function are: the Dean of Education²

The Associate Dean for Teacher Center³

the Director of Field Experiences⁴

and one elected representative of the groups the College of Education faculty Arts and Sciences
one College of Education student⁵.

The Operations Council prepares HATEC's programmatic statements which are then submitted to the Council; it issues recommendations about administrative questions, etc. The Operations Council, recommends for instance, criteria for the selection of supervising teachers, for the assignment of student teachers to the supervising teachers and for the inservice training of supervising teachers.

Unlike the Operations Council, the Council and the Teacher Center Coordinating Committees meet only twice a year. The Teacher

¹ See chap. 3 of the statutes.

² At that time Robert B. Howsam.

³ Also called 'Associate Dean for Off-Campus Activities', at that time W. Robert Houston.

⁴ At that time Allen R. Warner.

⁵ See p. 6 of the statutes.

Center Coordinating Committee takes care of the implementation of the council's orders at the district level.

For setting up the HATEC, the founders could build on informal contacts and cooperative relations which existed since the pilot program¹.

From the beginning, the project team had taken great pains to include the relevant institutions and groups in the development work. A consortium of groups from the education community² and an advisory body for the pilot project in which the same groups were represented provided the organizational basis for embedding the development work in a broad network of consultative and cooperative relations. The organizational structure including the pilot project itself, the consortium and the advisory body, is referred to as Houston Teacher Center (HTC) or Houston Competency-Based Teacher Center.

The HTC was the starting point of the development of a comprehensive network of informal cooperation. Although these contacts were established in connection with the development work in the pilot project and were accordingly oriented to its objectives, one was interested in establishing model relationships that could provide a basis for the further work after the development phase: "The project attempted to model an organization, procedures, and relationships between a university and a public school district which might form the basis for future interinstitutional relations. Teachers provided significant input into the developmental process while the university provided some inservice education. As the project terminates, this exchange of resources is hypothesized to become more intense." (Houston, Jones, Howsam, 1973, p.76)

Yet the participation of the education community in the pilot project was self-appointed on both sides and had informal character.

¹ See chap. 3.3(b).

² See chap. 3.3(b).

The participation of certain persons and groups was primarily initiated by the pilot project.

"Consortia such as this one often are organized because of exterior funding. They are short-lived, targeted, and expedient. They do not affect the heart of the cooperating institutions, which may also be engaged in many other multiple organizational relationships. Decisions may also simply reflect project needs, not institutional needs. The parity concept, based on genuine collaboration among independent institutions over a period of time where the intra-institutional structure, and mission was subjugated within an inter-institutional structure, probably has not been attempted." (Houston, Jones, Howsam, 1973, p.89/90)

This shortcoming could be overcome by establishing the HATEC¹. The members of HATEC are no longer persons cooperating voluntarily in activities determined by the College of Education but represent the interests of their institutions².

However, the activities of the HTC for including the education community in the development work of the pilot program provided a body of informal contacts and vast cooperation experience which facilitated the cooperation between the HATEC and the College of Education from the start. The notable influence - as compared to other LCTEC in Texas - of HATEC on local teacher training programs cannot be explained without it.

¹ The setting up of HATEC did not result in winding up HTC; it still exists today (October 76) as an organizational framework for research and development projects on teacher education funded by exterior sources. A focal point of its present activities is the development of a "Clinical Supervision System" for field education in PTPF. The HTC is still funded by the Texas Center for the Improvement of Educational Systems (TCTES).

² Where only one school district (yet a large one: the sixth in the USA) is represented in the HTC, the Houston Independent School District, all 18 school districts of the Houston Metropolitan Area are in the HATEC.

4.2 The implementation decision

In the academic year 72/73, a committee of the College of Education of the Houston University prepared the implementation. Following its recommendations, the College decided in the spring 1973 to reorganize the whole undergraduate teacher education in its responsibility on a CBTE basis.

"Representing each of the departments, and composed of persons knowledgeable about CBE and in positions of leadership, the committee was charged with formulating long-range plans for CBE implementation in the College. The committee included the Dean, two Associate Deans, three Departmental Chairmen, Project Directors, and faculty; a total of eleven persons served. They met about 15 times during the year to consider schedules, plan activities, formulate CBE thrusts for the future, and take these recommendations to the faculty.

Both college and departmental faculty meetings have formally endorsed CBE and the college's thrust. The faculty committed themselves to full implementation of CBE in undergraduate education beginning in the fall, 1973." (Houston/Jones/Howsam, 1973, p.38/39)

After the event, there are several readings of this decision. Whereas official statements stress that all departments participate in the decision making process, some College members insinuated that the implementation order had been pushed through by some pressure groups with the support of the Dean (interviews 3,13 and 14; see also section 3.3(a)).

Probably, both interpretations underestimated the extent to which the implementation decision was influenced from outside. The new standards have been effective for nearly one year. The controversy is still in full swing and the pilot program in the first test run.

64 of the 185 elementary and secondary teacher students who participated in the first experimental group will soon complete the program, but the other 121 have only gone through a half-year. Actually, there is relatively little experience available about the implementation of the program. This is all the more significant as field conditions are likely

1 For the figures see Houston/Jones/Howsam, 1973, p.52.

to differ considerably from those in the test run. In retrospect, a leading member of the College describes this contrast as follows:

"The order to implement the pilot program meant that 600 additional students would have to go through the program at the beginning of the next semester and 600 more in January of the next year. Suddenly, 1200 students instead of 121, or 64, had to be pushed through the program. This made it impossible to handle the program flexibly. The teaching staff was snowed under with bums. The emphasis was shifted from programmatic questions to management problems."

(interview 7, p. 3).

If, by their own admission, they had no clear view of the consequences of this order - the above member of the College called it a "terrible mistake" - (interview 7, p. 2), they were well aware of its problematic. Asked why this hasty implementation was decided, one of the major initiators of the pilot program answered:

"The normal and the experimental program could not both be funded at the same time. Besides, the testrun of the pilot program was very successful" (interview 9a, p. 5). This view was confirmed by other sources (see interview 7, p. 3).

It may be surprising that it is financial considerations which brought about the implementation order. This is however understandable if one bears in mind the situation which prevailed then in US teacher education. So Zelda F. Gamson recalls that the implementation of CBTE started at a time when most colleges and universities suffered stringent cuts. On the other hand, the implementation of CBTE requires more time, efforts and money than many other innovations in the educational sector. The major problem facing the CBTE program was then "... to find the time, energy and resources for developing the program while at the same time dealing with the continuing need to attract and generate resources" (Zelda F. Gamson 1976).

All in all, it must be borne in mind that the College of Education of the Houston University was under considerable pressure from inside and outside as the implementation decision was made.

Actually there was no choice: by September 1, 1974, at the latest, the implementation of a CBTE program had to be started as set out in the moratorium. The progress made in the meantime was to be documented in a report "...showing what changes have been made in the institution in order to meet the revised standards"¹⁾. As one of the centers entrusted with the development of a prototype CBTE program and a corresponding inservice model teacher training in Texas, Houston had to keep to the schedule.

On the other hand, the row over the new standards was straining the relationship with the College of Arts and Sciences and became a threat to the poorly developed informal cooperation between both colleges. Hence the College of Education expected a further deterioration of the mutual relationships.

"With the state-wide concern of Arts and Sciences faculties due to the Texas Education Agency mandate for competency-based certification, (contact; D.V.) may become more strained in the coming years. Their concern grows from that portion of the regulation which specifies that Arts and Sciences courses for teacher education majors must be competency-based. They believe a State Agency should not be permitted to dictate the instructional approach colleges are to use."

(Houston/Jones/Howson, 1973, p. 79)

From the very start the overhasty implementation of CBTE imposed limitations on the whole enterprise. The unsatisfactory cooperation with the College of Arts and Sciences precluded the extension of the CBTE concept to the academic and general education components though the new standards demanded such an extension.

Limiting CBTE to the professional education resulted in a series of additional constraints even for this far more modest project:

- (1) reduction of the resources to College of Education funds
- (2) the prequalification of the teaching staff
- (3) the course structure

¹ Texas Standards ..., 1972, p. 2, see also 4.1.1.

- (4) the reward system
- (5) the credit system
- (6) the graduation regulations

(1) Apart from external funds available for research and development projects, only the normal funds from the College of Education is budget were available. The consequence was that one third of the teaching staff had to work 60 hours and more a week without additional pay (see interview 9b, p. 37). A close collaboration with the academic faculties as set out in the standards would have, at least in principle, given access to the financial and personnel resources of these faculties.

(2) Team work capability was viewed as one of the most important prerequisites of the CBTE implementation (interview 14, p. 6; 17, p. 1; 9b, p. 2/3). Yet it is by no means a natural thing for university teachers. "We have considerably overestimated the ability of the educators. One-sided education in independent thinking is predominating in the USA; education programs intended to make professors familiar with team work have never existed. Yet CBTE is based on team work and on the readiness to accept the products of team work as such, even if this may lead to inevitable conflicts with the traditional system of academic reward." (Interview 9b, p. 3)

(3) The course system is one of the organizational bedrocks of American Higher Education. Courses are the usual teaching and learning units; they are the standard by which the length of a training is measured and compared to others; they determine the articulation of the topics in a program; they are also the standard for measuring the work load of the teaching staff in higher education institutions, for the allocation of funds and personnel to departments, colleges and universities.

The predominant role of courses as a planning principle in the traditional system of higher learning in the USA stands in contrast with the CBTE postulate according to which the existing or the acquired competency should be made the sole

standard. What consequences result for the instructional system is exhibited below: "In a traditional program time is held constant, and achievement varies. That is, the program is set within a certain time limit - usually four years - and students go through an established number of courses and are required to obtain a particular number of credits and a minimum grade point average. The emphasis is on the completion of the courses regardless of whether the student has acquired mastery in all areas of study. On the other hand, in a competency based program achievement is held constant in a sense, and time varies. The program specifies the criteria levels at which competencies are achieved, and the student moves through the program at his own rate; he moves as quickly as he wishes and is able."

(Cooper/Weber, 1973, p. 16)

It is precisely this fundamental significance of the course as an organizational principle of higher education in the USA that makes it difficult to eliminate it in individual places. For PTPP this has not succeeded to date. "We hope we will be able to abandon the course structure in a near future. The precondition is however that an elaborate design is available for the instructional system as a whole. The efforts to abolish the course system in PTPP could be successful when it is developed in all its parts. But even in that case it is uncertain whether the competent university bodies and the parliament of Texas will accede to the request. It is a different thing for the pilot program, which is not state-controlled. Yet State control as well as the state funding system for higher education are based on the course structure." (Interview 16, p. 3)

(4) The established system of academic reward, based on publications and "national visibility", which is aptly characterized by the phrase "publish or perish", soon proved an obstacle to development and implementation. Least hit by the repercussions of this reward system are the nationally known CBTE specialists of the Houston university: Cooper, Houston, Howsam, Felder, Jones and Weber. As CBTE experts they have found an area in which they can publish and acquire scientific

visibility outside the academic subjects. For the other members of the teaching personnel, the problem is quite different. They must keep to topics which give them opportunities to do independent scientific work and gain recognition in the academic community. "If only for the sake of survival, they must keep in touch with their former academic discipline and avoid being confined within undergraduate programs and the development of modules, which, by common standards, are not viewed as a scientific achievement." (Interview 2, p.2)

The traditional reward system geared to individual achievement in research hampers the development work needed by CBTE in two ways: first, in that it does not reward team work as it does for individual achievement; second, in that it favours the researcher's qualities as against successful teaching.

"There are many people engaged in teaching who cannot publish though they are excellent university teachers and/or may pride themselves on very unusual achievements in the development of teaching material. On the other hand, there are numerous writers with long lists of publications who had better not be teachers." (Interview 9b, p. 3)

Obviously, this reward system and the related academic standards played a still more decisive role at the College of Arts and Sciences than at the College of Education; this places additional strains on the cooperation between these institutions: "One of the goals of TTT (Trainers of Teacher Trainers Project financed from federal funds - for which several billions of dollars were allocated - was to promote the cooperation between the Colleges of Education and the Colleges of Arts and Sciences. This enterprise failed, primarily because of the existing 'reward system'. Those who work together with the College of Education and invest time in this cooperation are at a disadvantage. ... They have to expect that their standing will decrease. This is even the case for our College. Teaching and research are claimed to be equally valued, but it comes to allocating the money you can't see anything of that." (Interview 3, p.7) Trying to verify that beside locally determined factors these are generally existing barriers involved

the following, example was given by the same interlocutor:

Example: the TTT project of the Washington University in St. Louis succeeded in winning 2 professors of history for developing a curriculum for teacher students (50% of the funds were provided by TTT, 25% by the normal budget of the College of Education and by the Department of History). This curriculum was intended to mediate between the educational goals of the College of Education and those of the Department of History. The cooperation was short-lived: One of the professors was sacked within a short time, the other one left because the work was no asset for his career." (Interview 3, p.7)

(5) There was also a contradiction between the "mastery learning" principle underlying PTPP and the credit system of the Houston university. The existing credit system required credits for each individual course. The system included the marks A, B, C, D and F; "F", standing for "failed", means that the course has to be taken again. The average score is a decisive factor for admission to the next section of the studies and for the end evaluation. For PTPP, for instance, an average score of 2,0 over the first two years is the condition for admission. Such conditions are above all aimed at upgrading the course of studies concerned. Lowering the risk of failure for the student is secondary. It is however nobody's contention that the usual marks are poor indicators of the chances of success.

The "mastery learning" principle is based on the assumption that most learners are able to learn and that the teacher is responsible for working with everyone until he learns. "Most students (perhaps more than 90 percent) can master what we have to teach them, and it is the task of instruction to find the means which will enable our students to master the subject under consideration. Our basic task is to determine what we mean by mastery of the subject and to search for the methods and materials which will enable the largest proportion of our students to attain such mastery." (Bloom, 1971; quoted in: Hall/Jones, 1976, p.9)

To be consequent, a system of teaching and learning based on the mastery learning principle can only use a binary system: "goal achieved" and "goal not achieved". To date it has not been possible to gain approval of such a system by the president of the university (see interview 9b, p.2).

In order to meet both the own programmatic demands and the administrative prescriptions of the University of Houston, a marking system was developed that seeks to take into account the "mastery learning" principle without totally renouncing to give marks.

(6) Besides the low proportion of the professional education components as against elementary teacher education (18 semester hours as against 30), it is a further handicap for secondary teacher education, that the College of Education was denied the powers to hand out a "secondary education degree". "The sputnik shock is the reason. It was assumed then that shortcomings in the academic subjects grant secondary education degrees was removed from the College of Education in 1962 and given back to the various Departments of the College of Arts and Sciences. The College of Education had then little standing on the campus." (Interview 3, p. 4)

One of the consequences of this deprivation is that the College of Education has had great difficulties ever since to cope adequately with the task of educating successors in the secondary school area. A mathematics education specialist of the College said: "One of my best doctor's degree candidates was taken away from me by the maths department, which threatened him/her with bad marks. We loose a great deal of potential

good teachers as a result of such a cut-throat competition. A lot of them come back to us if they cannot find a job once they have their doctoral degree." (Interview 3, p. 3)

The constraints mentioned under (1) to (6) show clearly what rigorous limits were set from the start to the implementation of CBTE at the College of Education of the University of Houston. "Mandating" was in particular very detrimental to the development of the PTPP program. The relationships between the College of Education and the College of Arts and Sciences, which were fragmentary but very important for the attainment of the CBTE goals, was further strained. The failure of "mandating" made it all the more difficult to win members of the College of Arts and Sciences for informal and voluntary cooperation in PTPP. The chances to achieve a systematic unification of teacher education including all its components were thereby reduced to a minimum.

Being suspected of pushing through their own claims and ideas with the help of the State against those of the colleagues, it was very difficult indeed for the proponents of the program to initiate rational discussions and decisions over priority changes in the allocation of resources and personnel outside the College. On the other hand, a deepgoing professionalization of teacher education is not possible without shifts in the allocation of the available resources¹.

Without allies within the university, pushed to the wall by the controversy over "mandating", and isolated, the College of Education could not but accept the standards as they were and translate their program into practice as far as possible, although some of its postulates could not be implemented under such conditions, especially in the hope that practical examples would help defuse the row over "mandating". In any case, the CBTE proponents in Houston became arch enemies of "mandating" as a result of their experiences. "Be extremely wary of instal-

¹ See chap. I.1.1 and I.3.2 of my dissertation.

ling CBE or any of its component parts by mandate. We are concerned about forcing people in any way with regard to CBE. Several states now mandate competency-based criteria for teacher certification, effectively requiring that all teacher education institutions in those states install CBTE programs. There are many who go along wittingly. Others cannot see anything of value in CBTE. For those who would try it and see, no trial is possible, at least no real trial with the option to reject the new system. Frankly, we think the mandate is one of the worst things that has befallen the CBTE movement. The movement has enough going for it to succeed without a mandate, so why stimulate the emergence of a whole army of organized opponents?

If you want to sell CBE, prove its viability with a well-managed pilot program. Let the enthusiasm of students, faculty, and cooperating professionals have its effect on the rest of the institution and you will probably end up with a full-fledged, voluntary CBE operation." (Hall/Jones, 1976, p. 251/52)

The limit set from the start to the whole enterprise should have made it all the more necessary for the College of Education to be solidly behind the new concept. The hasty implementation of the program a short time after its development proved to be an obstacle in this respect.

4.3 Internal opposition and the participation of College members in implementation

That the education community of Texas and thereby the College of Education of the Houston university were solidly behind the CBTE concept in the controversy over "mandating" does not mean that there were no internal objections against the concept and no conflict over the implementation of CBTE. The gradual repeal of the order, limiting the implementation of the CBTE program to the components in the responsibility of the College of Education exacerbated the already existing oppositions and conflicts.

It appeared in particular that, in spite of the massive participation of the educators in the development of the pilot program (see 3.3 p. 36/37) and of the unusually large-scale efforts for the inservice training of teacher educators (see interview 3, p.2; 4, p.2; 15, p.3), the CBTE thrust and the corresponding program were by no means public property among teachers: "In Houston we did not succeed in extending our claim to all faculty members. Those who had not participated in the experimental program did not know it and attributed it to the supervisors, who in turn, failed to attract further faculty members. One characteristic of the C&I people is that they want to make their own program. They are experts themselves and do not want to use other people's modules. Conflicts of this kind are typical of large teaching staffs." (Interview 5, p.8)

This was all the more straining as the decision to change the total education program at the College resulted in a great number of management problems which had been absent in the pilot program and could not be anticipated on a reduced scale on account of the different dimensions, so that no experience was available for them.

"In the spring 1973, before the first experimental group of the pilot program was through the proposal was accepted that the CBTE program be extended to all student teachers. One was convinced that CBTE was the right thing. This meant however that 600 new students would have to go through CBTE in the next fall and another 600 in January. Suddenly, it was no longer 121, or 64, but about 1150 students who had to go through the program. It was no longer possible to handle the program flexibly. The teaching staff snowed under with bumf. The emphasis was shifted from programmatic questions to management problems. The consequence is that the program director (Dell Felder) is now primarily concerned with organizational and management problems at the expense of programmatic issues. She speaks like a program manager, not like a program developer. We were not sufficiently prepared and largely missed the opportunity to be creative." (Interview 7, p.3)

Thus the conditions for a continuing enlargement of the group of the CBTE proponents were far from optimal. Many compromises and concessions had to be made to allow that all educators involved in PTPP could really put the program into practice in their area of activity and accept to do it. "The problem is how to extend the experimental program to the whole teaching staff. For this a compromise has to be found between the experimental ideas of the superstars and the possibilities and interests of the other members of the College." (Interview 3, p.10)

The attempt made in the first year to extend the pilot program to the whole teaching staff of the College of Education was a failure. The fragmentation and desintegration of the various program components had such an extent, the educators' views about the content of a competency-based teacher education program were so different that this plan had to be shelved.

"Assessment of the program's first year of full operation suggested the need for better integration and coordination of the program's components. A lack of systematic development - a rather piecemeal effort - had resulted in a great many good, but ill fitting, program 'pieces'." (Felder/Weber, 1975, p.148)

It had become clear to all persons involved that a simple implementation of the developed products failed to come up to the self-imposed requirements for an integrated program. As one did not want to push through the program against the massive opposition of large sections of the teaching personnel, which was tantamount to renouncing to implement it in large areas, a new phase of development involving all educators had to be inserted in the implementation process in order to save to a certain extent the unity and the system character of the program.

One was faced with the need for a new start in program development in the course of which a consensus over the fundamental principles of the program had to be found among the educators, formulated and translated into program decisions.

The program lost part of its originality and elaborateness in this new process of development. The increased necessity to find compromises led inevitably to a greater pluralism of approaches; the concept of the program became ambiguous and vague.¹ This is shown, for instance, by the treatment of the sequence problem. Whereas the Fuller model was binding in the pilot program, this binding character became more and more relativized as the implementation went on. Where as recently as 1974 in a circular letter a commission set up by the Undergraduate Studies Committee stressed the importance of the Fuller model for the whole construction of the program,² especially for the sequencing problem, the Fuller model was not mentioned at all in the Weber memorandum of April 1975 (see attachment). Today at the College we can find side by side a total ignorance of Fuller's ideas (interview 1a, p.2/3) and committed proponents of this concept (interview 9a, especially p. 2/3)³ who are so convinced of its fundamental importance for teacher education that they believe in its long-range success.⁴

The difficulties encountered in trying to extend the pilot program to the whole college are also shown by the fact that the development was done at different times in the different departments and program areas. As recently as 1975, a Memorandum of the Director for Program Development pointed out that "... the development efforts of the various departments and program areas responsible for the instructional components of the PTPP are at different stages - some are just beginning while others have made great progress."⁵

The systemic character of the original program was also affected by the need for compromises and concessions. Together with management problems, this led back to the "piecemeal approach" that had been so criticized in traditional attempts to reform teacher education and that the new innovation approach was

1 See 4.5.

2 Houston, 1974, Appendix B, p.108a.

3 See 4.5.4.

4 See interview 9a, p.3. - There it has been argued that the CETEM program of the Teacher College, Columbia University has a similar program sequence without referring to the Fuller model.

5 Memorandum of the Program Development Director, Apr. 1975, Attachment Two, p.3; see Appendix 6.

intended to overcome¹.

In spite of the far-reaching concessions made to allow for the reservations towards, and the various concepts of, the CBTE concept among the educators of the College, it has not been possible to win all university teachers for the new program². In particular the chairman of the Curriculum and Instruction department, a vital department for the program, did not approve of the pursued policy, since, he said, it still evoked too much resistance and dissatisfaction.

"Especially the then chairman of C&I had a bad feeling about CBTE. ... He was too eager to seize on dissatisfaction and points of friction. Willing to satisfy anybody, he took the dissatisfaction of individuals too seriously, which bred much confusion." (Interview 5, p.2/3; see also p.8)³

In order to secure the implementation of the program, the then chairman of C&I was sacked in 1974 and replaced with D. Felder. But in spite of the policy followed assiduously for several years for appointing CBTE proponents to the key positions at the college, the CBTE concept was obviously not rooted deeply enough in the personnel at that time for the college administration to believe it could renounce such vital decisions in the personnel policy.

The opposition against the program has not been overcome yet; rather, the opponents have come to terms with the new reality and try to interpret the program in accordance with their own views, or to find loopholes.

Of course the increasing trend towards pluralism is favourable to them in the course of the implementation. "The resistance is of no consequence. But I could name people who spend most of their time objecting. There are also many who do not say much but who do not apply CBTE." (Interview 3, p.3)

¹ See J.M. Cooper/W.A. Weber, 1973, p.9.

² See interview 2, 3 and 5.

³ Like interview 2, p.1.

This is especially so in those départements which lost their responsibilities for teacher education as a result of the reorganization in the late 60s and whose activities are now primarily concentrated on graduate programs. This is particularly the case for the Foundations of Education Department (FED). This department had not been involved in the development of the pilot program and had adopted a reserved attitude toward CBTE from the start. Even now, it does not feel committed to CBTE: "FED has only service functions in the undergraduate program. It is an open question whether it will still perform them in future. But as long as it does, it is intolerable that the program components in its responsibility are not competency-oriented. All students of the undergraduate program must go through FED 361 in the first phase, but this course is given by an arch-enemy of CBTE." (Interview 1b, p.2)¹

This is confirmed by members of the department, who justify this attitude by arguing that CBTE is inadequate for the specific object area of FED 361: "We are supposed to use the available modules, but unlike in the other components of the undergraduate program, FED 361 does not follow them. FED 361 is not suitable for that, neither from the point of view of its target-groups nor of its objectives." (Interview 14, p.4)²

This open refusal of the program has been tolerated so far. One can easily imagine that if such extreme forms of dissent are tolerated there must also be a wide range of more subdued and less radical reservations. On the other hand, it should not be overlooked that in the course of the implementation process most members of the teaching staff became supporters of the CBTE concept³, which does not imply that they are unanimous about its interpretation. There are on the contrary considerable differences⁴. According to the inter-

¹ See also interview 14, p.4.

² See also 4.5.3.

³ Some informants confessed openly to be converted from engaged opponents to convinced proponents of CBTE ideas.

⁴ For typical variants see interview 15, p.4; 4, p.3; 14, p.2; 8, p.4; 1a, p.1 and 3, p.6.

views and questionnaires, it is in the implementation phase that most of those who participated in the development of the pilot program without belonging to the hard core ceased to be curious and sceptical observers to become convinced supporters of the CBTE concept.

In particular, when compared with other CBTE programs, PTPP produced excellent results in spite of the actual reservations regarding the educators' involvement and the implementation: "The development of the Houston program is more advanced than any other across the country. There are other programs in the same stage of development and with other advantages, but no other program has secured the participation of the whole teaching personnel to such a degree. From the other places which I know, the Western Kentucky University is perhaps the only one which has achieved comparable results.

Although I am sure that there are other good programs of which I have no knowledge, I am convinced that they are not as advanced as Houston in this respect. The participation of all teaching personnel requires new techniques, a new knowledge. ... Giant obstacles had to be overcome. Each professor feels himself a king in his domain and is especially interested in his own career. A look across the country suggests that Houston is a fantastic exception to this rule. True, the Houston program is no longer a pure CBTE program as it was; all educators have gone through the process by now, but teaching is now more competency-oriented than ever before." (Interview 5, p.9)

In spite of the above mentioned limits, whose consequences will be analysed in detail in the subsequent sections, the supporters of the PTPP program have succeeded in convincing and qualifying a large number of people at the College, to the extent that they are now prepared and able to promote the development and implementation of the program by their own initiatives.

4.4 Changes in the government and management structures of the College

"The progress of 1973-74 involved continual development. However, the real progress was made in redesigning organizational structure and continuing program implementation across the whole college."¹

The initiators quickly realized that it would be difficult to gain the support of the whole teaching staff and to translate this support into constructive and successful work without changing the organizational and decision making structures at the college, especially under the above constraints.

In spite of the reorganization of the department in 1969 "no one person, group or department was held accountable for student advising, scheduling and the keeping of student records. A sample anecdote here should suffice. In scheduling during the Spring semester 1973-74, groups of students were asked to register for specific sections of advanced courses. This decision was made to insure program continuity and to allow students to remain in intact groups throughout their programs. Between the time the students received the hidden security codes for computer registration and the time students registered, the sections were discontinued by a department because of staffing difficulties. Needless to say, confusion was great."²

Similarly, the organizational structure did not allow to do justice to the great significance of the Foundations of Education (FED) in a CBTE program. "The role of the counselor in psychological testing, Personal Assessment Feedback, and individual counseling of students as well as the role of the faculty of Foundations of Education in providing cognitive input on the psychological, psycho-social, cultural and historical aspects of education enhanced the need for a re-

1 Houston, 1974, p.2.

2 Houston, 1974, p.6.

sponsive management system across departmental lines."¹

Implementing the new program proved even very difficult in those departments which had been strongly engaged in teacher education. With the fitting of the pilot program to the existing course system the established responsibilities at the college also prevailed for the new program. As a consequence, the courses took up an isolated life of their own along the organizational lines of demarcation existing at the college between the departments and program areas. This is even true for those courses which were especially developed during the implementation of the pilot program.

These developments stood in stark contrast to the programmatic goals of the CBTE proponents at the college: "Discrete courses are replaced with coordinated and integrated program components. Faculty can no longer assume that the courses they teach are exclusively 'their' territory. Thus a great deal of collaboration among faculty is necessary to achieve effective coordination of program planning and implementation. Considerable time must be committed to this effort, despite the fact that the reward systems of most universities do not place high value on such activity. The management system, therefore, must assure that time spent in collaboration is productive and that individual faculty member perceive their contributions as both important to the overall mission and professionally rewarding to themselves."²

It is precisely this need that the matrix management system seemed to meet³. In 1973 the former dean of the college, Robert B. Howsam, wrote, after having made a detailed comparison of several alternative management systems for teacher training institutions ("management by objectives", "planning, programming, budgeting system"-PPBS, "project management", "matrix organization"): "Matrix organization appears to have high promise for use with PBTE. It has the flexibility and orientation which open systems require, while at the same time it accommodates

¹ Houston, 1974, p.3.

² Felder/Weber, 1975, p.159.

³ It has been implemented after the statutes of the College have been revised; see Hollis, 1974, p.55.

the stable on-going programs." --

"It appears to have capacity for almost infinite variations to meet local conditions."¹

Houston describes the idea underlying the matrix system as follows: "Matrix organization ... represents a method for combining functional organization ... and project or program management into a single system. The organization continues its functional structure in the form of the traditional pyramid within which authority and responsibility follow the usual chain of command. This part of the system performs the continuing and stable functions, thereby bringing in the resources upon which survival depends. In addition, a project system is superimposed on the functional. Since the functional organization is essentially vertical in structure and since project organization is lateral - cutting across the traditional and drawing on a number of the functional departments for talent - the effect is a grid or matrix."²

The following diagrams confront the traditional hierarchical structure, exclusively functional, and the matrix structure, which represents both functions:

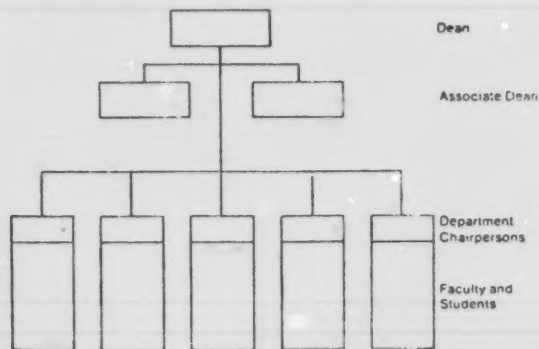


Figure 1a: Traditional diagram (functions)

1 R.B. Howsam, 1973, p.216 and p.218.

2 Howsam, 1973, p.215.

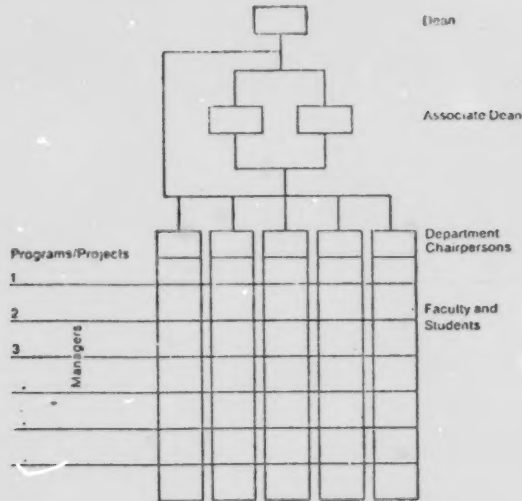


Figure 1b: Organizational diagram of the matrix system
(functions and tasks)¹

As the introduction of the matrix management system was discussed in Houston, little experience was available on how this system would work in higher education or in teacher education. It was obvious that this introduction would imply a radical break with the traditional structures of organization and decision making. "The obvious difficulties of such systems have precluded their functioning. One obvious difficulty is that in installing matrix systems, the typical management structure of most colleges and universities is challenged."²

As the Matrix Management system was installed at the College

¹ See also Hall/Jones, 1976, p.247/48.

² Houston, 1974, p.3.

of Education of the University of Houston a fully implemented model that would have just had to be adapted to the local conditions at the college was not available. The model had to be developed and adapted in Houston.

In the former organizational structure of the College of Education the responsibility for undergraduate education was with the Curriculum and Instruction Department (C&I; Elementary Certification, Special Education Programs and Secondary Certification) and the Health and Physical Education Department (HPE; granting of HPE degrees), regardless of the fact that at that time a course offered by the Foundations of Education Department (FED) was already compulsory for all students.

The post of Director for Undergraduate CBTE Programs" was created as a first step towards installing the matrix system. He was in charge of leading and controlling the efforts of all departments in the undergraduate area: "The director, directly accountable to the associate Dean for Undergraduate Studies, was a member of the Curriculum and Instruction faculty, although in his capacity as director, he worked with all departments."¹

This first move towards installing a matrix structure at the college was then further developed and modified according to the experiences and evaluations of the educators and students. The trial phase is not completed, but some basic features of the Houston system can already be considered characteristic.

The foundations of the system are hinged on the following principles:

- (1) For an innovation project to succeed a balance between the interests of the project and those of the sub-systems involved must be found and made explicit to all concerned parties: "... it is essential that the relationship between the survival of a sub-system and the fulfillment of its

¹ Houston, 1974, p.4.

function be made explicit, and, whenever possible, mutually attainable. That is to say, if a report needs to be made and publication is necessary for academic survival, make the report a publication. Likewise, if research needs to be conducted and a researcher is in need of funds for released time, make the funds available for research in a delimited area. ... While the project must work within the overall rules of all of the institutions it represents, the project must generate its own rules which are not a combination of those from each participating institution."¹

- (2) In an efficient management the sub-systems should be as autonomous as possible. Hence decision making should be removed to a large extent to the level of the sub-systems. The functions of the sub-systems should be clearly delimited, and each sub-system should know the functions of the others. These should be renegotiated and reshuffled whenever the need arises.

"It is assumed that such an administrative structure, resulting from dynamic equilibrium having been achieved by active negotiation of all concerned parties, will have more relevance to the needs of the on-going program than any predetermined administrative structure."²

- (3) Delegates of all subsystems reporting permanently to the members of the sub-system they represent on all matters of interest to them and voicing their interests and views should be on all policy boards.

"To assure effective decisions, personnel from all levels in the project should be involved. Widespread involvement in decisioning, however, can become very costly in terms of a project's human resources. To assure efficiency, therefore, care should be exercised to assure appropriate involvement. Generally, personnel who will be directly influenced by any given decision should be given opportunity

¹ Houston, 1974, Appendix A-2, pp.93/94.

² Houston, 1974, Appendix A-2, p.94.

to participate. The management staff should be ever conscious of the demands placed on the time of personnel, however, and should strive to conserve this valuable resource as much as possible."¹

- (4) Program development and program operation tasks should be strictly separated: "The time constraints placed upon the short term goal inherent in program operations are of such a nature that they will dominate any group or individual who is faced with both operational and developmental tasks."²
- (5) The objectives of the project and the individual objectives of the participants should coincide to a large extent: "If the project's goals can be attained simultaneously with those of the project personnel, a desire to continue the project will be manifest in those personnel. The process by which this is achieved must be an open and honest negotiation between those who manage the project and the project's faculty."³

In accordance with these principles, the new organizational structure of the Undergraduate Program of the College of Education in Houston is determined by the following characteristics.

- (1) A program director is responsible for all current undergraduate activities.
- (2) The whole program is divided into three relatively self-contained program areas corresponding to the three certification areas: Elementary Certification, Secondary Certification and All-Level Certification. Each program area has a "Program Unit Coordinator" nominated jointly by the program director, the Associate Dean for Undergraduate Studies and the chairman of the department.
- (3) A "Program Development and Implementation Council (PDIC)" of which the Program Unit Coordinators and other partici-

1 Houston, 1974, Appendix A-2, p.98.

2 Houston, 1974, Appendix A-2, pp.96/97.

3 Houston, 1974, Appendix A-2, p.97.

pants nominated by the director are members and which is presided over by the program director is associated to the program director.

- (4) A task force with its own chairman is set up to deal with long-range questions of program development: "To evaluate, monitor, study and problem solve the programs"¹. The chairman plays a decisive role in the nomination of the other members of the task force.²

The Program Director and the Task Force Chairman are immediately answerable to the Associate Dean for Undergraduate Studies.

- (5) The responsibility for the development and implementation of the individual program components remains with the departments.

In the departments, "program areas" are built for the development of the individual program components.

"It was emphasized that the PDIC's role is one of coordination and facilitation and that responsibility and accountability for the design and delivery of the various instructional components of PTPP rests with various departments and program areas within the College. It is the position of the PDIC that these departments and program areas cannot be held accountable for component design and delivery if they are not also given this responsibility."³

All educators involved in teacher training are members of a program area and thereby compelled to work out orientations for the courses in their program area together with their colleagues. For this purpose, instructional teams are set up for each course in each program area. All personnel teaching in the corresponding course are members.

But it must be said critically here that, because of the high value placed in maximum participation by all personnel at the

1 Houston, 1974, Appendix A-1, p.87

2 See 4.5.6, d).

3 Memorandum of the Program Development Director of April 9, 1975, Attachment 4, p.1.

level of the units mainly responsible for the developmental work, the intended separation between development and implementation tasks was not implemented.

- (6) The allocation of resources for teacher education programs is done by the departments, which however are answerable to the program director for using optimally the funds provided by the College in accordance with the goals of the program. "The changing character of program's administration does not change the department's commitment to supply resources to the programs. ... Specific resources assignments be negotiated between the director and the department chairman where the resource is maintained."¹
- (7) The program director's evaluations of the activities of the people involved in teacher training programs play a decisive part in the departments' decisions for the evaluation and the appointment of personnel.

There are good reasons for assuming that the organizational reform sketched above largely contributed to the active commitment of large sections of the personnel to the CBTE idea. It brought by force a new level of cooperation without excessive centralization of responsibilities. This gave those who had reservations against CBTE, without being declared foes of the idea, the opportunity to become gradually familiar with the new idea without relinquishing their professional autonomy, to bring in their own ideas, to modify the program accordingly and to gradually abandon their reservations.

But as the above example of the FED department showed, the reservations against CBTE had a tolerance limit above which even a highly flexible organization loses its integrating power. A minimum consensus over the content, implicit or explicit, beyond the limits of the departments was necessary for achieving the programmatic unification of teacher education at the college.

Further, the Matrix Management System makes it possible, at least within the college, to modify the traditional reward

¹ Houston, 1974, Appendix A-1, p.88.

system¹ in favour of teaching and material development activities thereby motivating university teachers to shift the center of gravity of their work².

1 See 4.2.

2 See interview 9, p.3.

4.5 The new program

The new body PDIC set up by the organizational reform played the leading role in this new program development process. To start with, it designed a program development plan specifying the strategic principles: "It was agreed that: (1) a systems approach would be used; (2) ample opportunity would be provided for faculty input in the design process; (3) products from previous faculty efforts would be utilized to the greatest extent possible; (4) the process would require considerable effort over a period of several years; and (5) adequate time and attention would be given to program conceptualization and design prior to actual development activities." (Felder/Weber, 1975, p.149)

Being interested in an elaborated conceptualization of the whole program acceptable to all parties the full implementation of the program to be developed on these premises was scheduled for 1976/77.

By April 1975 PDIC had prepared materials for the following areas:

- a) general ideas intended to underly the whole teacher education program (program assumptions)
- b) a model for classifying teacher competencies
- c) a list of general teaching competencies valid for all contents and target persons involved in teaching (generic teaching competencies).

In preparing the a) b) c) materials PDIC drew on previous work and experience and on cooperation with the educators. At the start, the numerous products developed by the members of the College of Education over the last years were collected and screened. "Products included program descriptions, instructional modules, evaluation reports, position papers, lists of assumptions, and lists of objectives." (Felder/Weber, 1975, p.149)

The materials prepared by PDIC were submitted to all members

of the college in order to stimulate feed-back and criticisms. Following this review, they were collected in a memorandum (Weber Memorandum) and presented to the Undergraduate Studies Committee, which approved them in April 1975¹.

Decisions regarding the fundamental features of the teacher education program taken in this way by the College of Education² were expressly characterized as provisional and open to revision: "The information provided here is the product of an evolutionary process ... and is in no sense a finished product. Rather it represents only the most recent stage in that process."³ Yet there has been no revision since these decisions were put through.

4.5.1 Underlying assumptions of the new program

The program assumptions of PDIC represent a new formulation of the philosophical background of the pilot program. They include statements on the following areas: "(1) the needs of society; (2) the nature of learning; (3) the role of the teacher; and (4) the characteristics of the instructional system." (Felder/Weber, 1975, p.149)

Their deduction sequence and hence their significance for the future development work are described as follows by 2 of the major participants, D. Felder, Director of PTPP, and W. Weber, Associate Director for Program Development: "Assumptions concerning the needs of society provided a basis from which to describe the role of the teacher as conceived in the program; assumptions concerning the nature of learning provided a basis from which to generate characteristics regarding the instructional system. Assumptions concerning the role of the teacher were seen as a basis for the identification and specification of teacher competencies. Assumptions concerning the characteristics of the instructional system were viewed

¹ Felder/Weber, 1975, p.150.

² See the Attachment of the Memorandum of April 9, 1975; see Appendix 6.

³ Felder/Weber, 1975, p.152.

as setting the parameters within which the development of instruction relevant to those competencies could take place." (Felder/Weber, 1975, p.149)

As compared to the pilot program, numerous new stresses were placed and many precisions were added in the new formulation of the premises. So the important statement on the teacher's role: "2. The teacher exhibits behavior which reflects professionalism"¹ is far more differentiated in the Weber memorandum: "... teachers tend to be more effective when they: ...

10. Are guided by professional and ethical standards ...
13. Evaluate their won competence and strive for continued growth.
14. Interact with other professionals to work for improvement of the teaching profession.
15. View themselves as accountable to pupils, parents, profession, and society at large."²

Similarly, a series of statements of the Weber memorandum on the area (2) (the nature of learning) specify the concept of individualization and personalization underlying the pilot program:

"... learners function at an optimal level of effectiveness and efficiency when they: ...

2. Perceive the learning outcomes and instructional process as meaningful
4. Have a sense of identity as to who they are and have a sense of power in terms of being able to cope with the environment
6. Are aware of themselves, are aware of the ways in which they learn, and have developed skills in evaluating their own learning
9. Perceive themselves as being dealt with personality

¹ See 3.3(b).

² Memorandum of April 9, 1975, Attachment Three, p.4.

13. Work at a pace suited to their abilities.
14. Work with learning tasks appropriate to their levels of development."

(Memorandum of April 9, 1975, Attachment Three, p.3)

A series of detailed statements also relate to new aspects of the background philosophy, which had not been treated in the pilot program. So assumptions over "societal needs" have been added which describe general dispositions and abilities which any individual should possess as a member of society. This precise specification of "the effective member of society" serves as an orientation for educational processes (at the level of the school as well at the level of teacher education).

"The following are examples of the assumptions posited regarding society's need for members who:

- Accept, appreciate, and encourage social, cultural racial, and individual diversity and ideological differences.
- Make rational decisions based on the best available data.
- Perceive reality in terms of its complexities and interrelatedness and deal with it comprehensively and systemically.
- Are effective and efficient in those careers they select and for which they prepare.
- Evaluate the success of their undertakings and use data in refashioning their efforts and commitments."

(Felder/Weber, 1975, p.153)

Whereas the statements made by the project team of the pilot program on the learning process, the role of teaching and the design of the school, were still based on an evaluation of the changes concretely expected in these areas, the Weber Memorandum reflects the efforts to provide more general and normative foundations for the program.

The statements on the different areas are more or less put together additively. If the relationship between the different complexes are only mentioned in a global and uncomprehensive manner at all. It would obviously be possible to attain

more unification of the various positions defended by the personnel. This product is however insofar more noteworthy as on the one hand a consensus had to be reached in less than one year and that a comparable process of agreement over basic questions of teacher education had never been reached since the early times of the college on the other.

The general characteristics of the instructional system had only been mentioned cursorily in the pilot program:

- "performance-based"
- "oriented towards the problems of crossover"
- "individual and personalized" and
- "systemic"¹.

By contrast, the Weber Memorandum gives a detailed list of program characteristics: "It is assumed here that the instructional system is more effective when it is:

1. Competency based; that is, the competencies to be demonstrated by the student are made explicit, the criteria to be applied in assessing the student's competencies are made explicit, and the student is held accountable for meeting those criteria. The emphasis is on the demonstration, not the acquisition, of those competencies specified as program expectations.
2. Campus-centered and field-oriented; that is, students are provided with opportunities to experience instruction and to demonstrate competence both on campus and in field sites depending upon the nature of the particular instructional or assessment activity and a determination as to where that activity can most effectively and efficiently take place.
3. Role-modeled based; that is, a conceptual model of the teacher's role is used as a basis for identifying and specifying those competencies students are expected to demonstrate.
4. Criterion-referenced; that is, assessment procedures are designed to determine whether or not a student has demonstrated competency at or above the level of mastery specified; the competency of each student is judged on the basis of predetermined criteria and is not determined through a comparison involving other students.
5. Pluralistic; that is, there is conscious acceptance of the notion that no one philosophy of instruction has been proved best; consequently, a variety of divergent views are posited as untested assumptions which the system must test.

¹ See 3.3(b).

6. Humanized; that is, program design and operation recognize the dignity and worth of each individual so that each perceives that he or she is being treated as one of worth.
7. Personalized; that is, the student is provided with instruction which takes into account his or her uniqueness.
8. Modularized; that is, the delivery of instruction is accomplished through the utilization of instructional modules; instructional modules are sets of learning activities—rationale, objectives, prerequisites, pre-assessment procedures, learning alternatives, post-assessment procedures, and remedial procedures—which are intended to facilitate the learner's acquisition and demonstration of a particular competency or set of competencies.
9. Multi-institutional; that is, the design and operation of the teacher education program is a responsibility shared by colleges, public schools, and the organized teaching profession.
10. Systemized; that is, the systems approach is used in program design and operation.
11. Regenerative; that is, the program is an open system capable of continuous revision on the basis of constructive data supplied by sound formative and summative evaluation procedures.
12. A single system with alternatives within it; that is, the program is a single instructional system which constitutes an integrated, comprehensive whole; however, the system does accommodate a divergence of viewpoints within its confines.

(Memorandum of April 9, 1975, Attachment Three, p.4/5)

The characteristics of the pilot program are mostly maintained and specified with greater accuracy (characteristics 1,2,3,4, 5,6,7,9,10,11)¹. The explicit commitment to modules has been added to them (characteristic 8).

Also new are the characteristics 5 and 12, which point out

¹ The characteristic "oriented towards the problem of crossover" which, under the influence of the abolition of segregation in Texas schools, ranked as high as the other characteristics of the pilot program lost weight later on. But the corresponding orientation of the program lies in the assumptions on the teacher's role (assumption 16: "... teachers tend to be more effective when they apply an understanding of cultural diversity to the instructional process" (Memorandum of April 9, 1975, Attachment Three, p.4) and in the list of generic teaching competencies ("competency 6: Integrates into instruction the cultural environment of students", see chap. 4.5.2).

Other characteristics have become the status of program characteristics for the first time as for instance characteristic 9 ("multi-institutional"). Nevertheless these were basic elements of the program design before, see 3.3(b) and the analysis of the relationship of the HTC and the HATEC in 4.1.3.

expressly that diverging viewpoints and "instructional philosophies" may and should be accommodated in the program. The realistic viewpoint had prevailed that a relatively high degree of pluralism is a prerequisite for the active participation of all educators in college-wide program development.

4.5.2. The generics teaching competencies

PDIC developed a four-dimensional heuristic schema for identifying and classifying competencies:

- "instructional/non-instructional"
- "pre-interactive/interactive/post-interactive"
- "knowledge/performance/consequence"
- "generic/specific"¹.

However the actual impact of this schema on the elaboration of lists of competencies does not seem to have been as considerable as its originators had expected. Indeed, this process was more regulated by complex social rules of consensus attainment than by logical principles of classification. The only thing which exerts some influence was the distinction between "generic teaching competencies" and "specific teaching competencies". "Generic competencies refer to those which are believed to be requisite to effective teaching regardless of content or student; the asking of higher-order questions would be an example of such a competency. On the other hand, specialization competencies refer to those competencies which are relatively unique to particular content or students -- the teaching of noun-verb agreement and the teaching of eye-hand coordination activities to nursery-school-age children are examples."

(Memorandum of April 9, 1975, Attachment Three, p.6)

16 of these "generic teaching competencies" were identified and taken up in the Weber memorandum as a minimum catalogue of teacher competencies considered as compulsory for the whole PTPP training. The following list is still valid to date (October 1976).

¹ Memorandum of the Program Development Director, Apr. 1975, Attachment Three, p.6.

GENERIC TEACHING COMPETENCIES

1. *Identifies learner's emotional, social, physical and intellectual needs.*
Draws upon knowledge of human growth and development, learning theories, social/cultural foundations, assessment techniques, curriculum goals and content in order to gather information about the learner and to identify instructional needs.
2. *Identifies and/or specifies instructional goals and objectives which are based on learner's needs.*
Views the setting of instructional goals and objectives as a key element in instruction; reconciles curricular and educational goals with present level of learner's needs; analyzes instructional goals to identify knowledge, skills, and attitudes needed to achieve those goals; states objectives so that intent is clearly communicated to learner.
3. *Designs instruction appropriate to goals and objectives.*
Develops a variety of strategies for promoting achievement of instructional goals and objectives which reflect the learner's needs and offer the learner alternative ways of achieving those goals and objectives.
4. *Implements instruction that is consistent with plan.*
Demonstrates the ability to use a variety of strategies which have the potential to promote learner achievement of specified instructional goals and objectives.
5. *Designs and implements evaluation procedures which focus on learner achievement and instructional effectiveness.*
Evaluates learner performance with reference to a variety of goals and objectives; reports learner achievement through grades, consultations, checklists and/or other appropriate means; evaluates instructional effectiveness by comparing learner's achievement with objectives.
6. *Integrates into instruction the cultural environment of students.*
Incorporates materials, examples, illustrations, motivators and reinforcers from learner's cultural environment so that learner is able to identify with content, processes and intended outcomes of instruction.
7. *Demonstrates a repertoire of instructional models and teaching skills appropriate to specified objectives and to particular learners.*
Describes and demonstrates a variety of instructional models; uses appropriate models of instruction based upon the subject, objectives and needs of learners; uses teaching techniques appropriate to those instructional models.
8. *Promotes effective patterns of communication.*
Recognizes the value of effective communication; communicates effectively verbally, non-verbally, and in writing; accepts and supports ideas of others; strives for more productive communication; and encourages interaction among all members of the group.

9. *Uses resources appropriate to instructional objectives.*
Operates audio-visual equipment, makes instructional materials, identifies sources of instructional materials and uses instructional materials appropriate to objectives; organizes resources in the classroom and community for instructional purposes.
10. *Modifies instruction on the basis of learner's verbal and non-verbal feedback during instruction.*
Demonstrates a continuous awareness of learner's activity to make decision regarding success of instructional processes and learner achievement; alters instructional processes on the basis of information thus obtained.
11. *Uses organizational and management skills to establish a maximally effective learning environment.*
Establishes and maintains a classroom climate which promotes individual achievement and personal growth; organizes and encourages productive group interaction; and establishes positive relationships with and among learner
12. *Identifies and reacts with sensitivity to the needs and feelings of self and others.*
Demonstrates a concern for the needs of learners; recognizes that as a member of a learning group, the teacher has needs which must be met in a teaching-learning situation; and reacts to meet the needs of learners, self, co-workers, and parents.
13. *Exhibits openness and flexibility.*
Searches continually for ways to improve instructional effectiveness; listens critically to ideas of others, is open to suggestions, and bases decisions upon best available data.
14. *Works effectively as a member of a professional team.*
Works with others in order to achieve commonly shared goals; displays behaviors consistent with the goals and ethics of the teaching profession.
15. *Analyzes professional effectiveness and continually strives to increase that effectiveness.*
Uses a variety of observational and analytic procedures to study teaching effectiveness; examines the consequences of teaching by focusing on learner objectives and instructional outcomes.
16. *Designs and implements instruction which incorporates career education concepts.*
Develops and utilizes a variety of strategies for embedding career education concepts into course content and instructional activities; addresses the need for learners to learn about themselves, their environment, and the work roles played by individuals in society.

(Memorandum of April 9, 1975, Attachment Three, p.9/10)

The list is lacking in systemacy and concept. This is due to the large number of people who participated in the development. As soon as the identification of competencies starts the systematic control over the process is lost. The generics¹ formulate general qualifications of the teacher's activities, regardless of the theoretical background." (Interview 1a, p.3)

With the introduction of the new management system in the fall of 1974¹, program areas were created in the departments responsible for teaching in PTPP. The largest program area, the Teacher Education Program Area, which belongs to the "Curriculum and Instruction" department is responsible, with a few exceptions, for all courses which are not related to particular contents². In particular, the Teacher Education Program Area is responsible for the "Introduction to the Profession of Teaching" course (C&I 362), which is compulsory for all teacher training programs.

This program area became still more important when, in 1975/76, a "Generic teaching competencies" course (C&I) was introduced for all teacher education programs in PTPP. Thus the minimum requirements for all teachers formulated in the "generic teaching competencies" were again firmly anchored in a central place of the program.

It remained however unclear how the "generics" could on the one hand provide the basis for two independent courses and at the same time a framework for the whole program. This second function has been stressed repeatedly in all teaching materials: "Throughout PTPP, experiences are designed to assist you in acquiring and demonstrating the following competencies"³, and the whole series of "generic teaching competencies" then follows. Nothing is said about the relation between the "generics" and the "specifics". "The 'specifics' are specified by the education specialists in the various subjects. They must at least be compatible with the 'generics'." (Interview 11, p.27)

¹ See 4.5.

² The course FED 361 (Educational Foundations of Teaching) is the only one for which the Teacher Education Program Area is not responsible.

³ Foundations of Education 362, 1976, p.2.

With the assignment of the "generics" to the Teacher Education Program Area and their courses C&I 362 and C&I 333 the generics had become one program component among others. This tendency was enhanced by the fact that it had manifestly not been possible to reach a consensus over lists of specifics similar to those of generics in all program areas at the expected pace in order to further systematize the development of modules and to create at the same time the conditions for the development of an integrative total design intended to provide a basis and an orientation for the further development work. According to the schedule, lists of specifics had to be ready by May 1975 in all program areas; on this basis PDIC was to prepare the whole design in the summer 1975 and submit it for approval to the undergraduate Studies Committee at the beginning of the fall semester, after having given time for all members of PTPP to suggest corrections¹. It appears from the interviews available that neither the one nor the other has been completed to date (see especially interview 16).

As a consequence of the delays, the development work, especially in the production and revision of modules, could not be coordinated as had been envisaged. This is also one of the reasons why the generics have not had the impact on the development of teaching materials and on the daily teaching practice that was originally expected from them. One sought to compensate for it by accelerating the translation of the generic teaching competencies into specific instructional objectives for the Teacher Education Program Area courses to provide the other program areas with additional experiences and orientations for their own process of identification of common goals². But this aggravates the other drawback that the generics tend to lose their function for the program as a whole where they provide a basis for the individual courses.

1 See Memorandum of April 9, 1975, Attachment Two, p.2, top 9 and 10, also Attachment Four, p.1/2, top 1 and 2.

2 The generics themselves were intended to serve as a model for the other departments and program areas ("it is hoped that this list would be similar to the one which already exists for the generic teaching component", Weber-Memorandum, Attachment Two, p.2)

For operationalizing the generics the same procedure was used as for formulating them¹: collecting relevant materials, grouping into blueprints, stimulating discussions and feedback, several revisions. The committee set up by PDIC for preparing a blueprint under the chairmanship of the Associate Director for Program Development, W. Weber, made great efforts to have all educators of PTPP (through the Program Unit Coordinators) and all teaching teams of the three program units participate in the development of this product. Yet members of other program areas had consultative functions only.

The result was the blueprint of October 1976, 11, called "Generic Teaching Competencies Component, Instructional Objectives"², which was submitted for approval to the Teacher Education Program Area³.

The mandatory course "Generic Teaching Competencies" is viewed differently at the College. Some educators point out that the qualifications contained in the generics (e.g. lesson planning) can only be taught in concrete contexts and in connection with the content (interview 13, p.2). Others think that there are general themes which can be transmitted at a general level, especially in the first phase (interview 11, p.3). But later on it is difficult to establish the relationship in the content-specific courses, it is said, as the education specialists in the different instructional subjects have to be convinced first that they could also be or become responsible for the transmission of the generics (interview 2, p.2).

1 See Memorandum of April 9, Attachment 2 and 4.

2 For an illustration of the character of the results see the specification of the 7th competency in the attachment.

3 Concerning the total process and the distribution of responsibilities see interview 16, p.2/3.

4.5.3 "Modularizing" the program

Besides the lists of competencies modules are the most important elements of a competency-based instructional system. A definition which is also generally accepted in Houston says: "A module is a self-contained set of learning experiences intended to facilitate the student's attainment of a stated set of objectives."¹ However, the term of "module" for instructional packages was not accepted everywhere².

Although they may vary in their external form (see attachment), modules generally contain 5 elements:

1. Prospectus—A statement of rationale to the learner.
2. Statement of Objectives—A behavioral statement of the most important learning outcomes.
3. Preassessment—A test to determine the learner's need and readiness for the instructional activities.
4. Alternative Enabling Activities—A multipath set of learning activities designed to facilitate learning the behaviors described in the objectives.
5. Postassessment—A test to determine whether or not the learner can perform the behaviors described in the objectives.³

Whereas these 5 elements were compulsory for any module in the pilot phase, the involvement of further groups of the teaching profession in the development process resulted in extending the notion of module. Today this notion is being used in a very loose sense.

"We have a lot of trouble seeking to agree on a unitary definition of the concept of module. A module can be anything: a piece of formalized lecture, a package of written materials, a set of slides with tape recorded text, an instructional film or a combination of them all. It is enormous to believe that one could carry around a module like a piece of "hardware", that one could possess a module. Used as it is here, this term

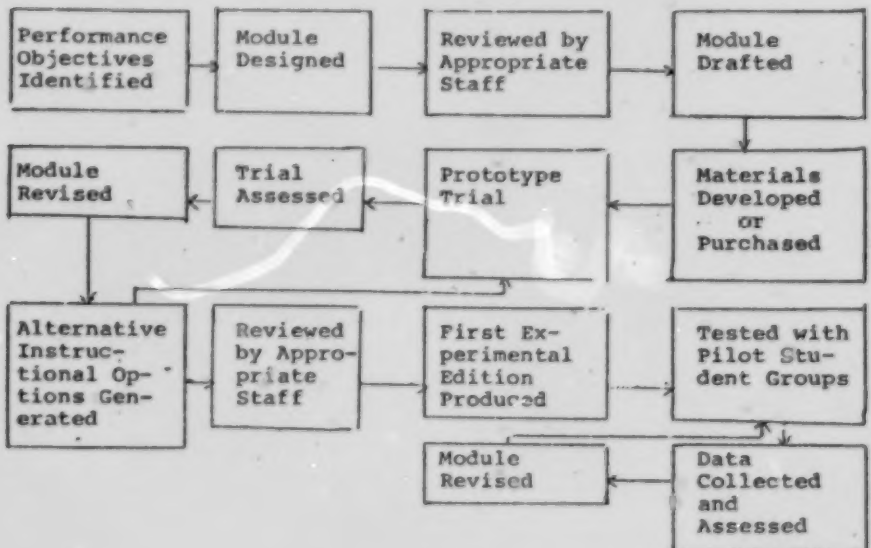
1 G.E. Hall, J.K. Pendelton, S.F. Loucks, 1973.

2 Other designations, which are less used: Learning Activity Packages (LAPS), WILKIT (Weber State Individualized Learning Kits), IPACs (Individualized Packets), Uni Pacs (Unified Packets) etc; see Hall/Jones, 1976, p.97.

3 Hall/Jones, 1976, p.97; see also Houston/Jones/Howsam, 1973, pp.187/88.

refers to a certain form of instruction which only differs from other instructional forms insofar as the following elements are always identifiable: introduction - comprising a rationale and the statement of the instructional objectives, a pre-assessment of the learning prerequisites, alternative learning experiences - a wide range of materials and forms of learning for attaining the instructional objectives of the module and post-assessment - including a set of recommendations on how to help whenever necessary (interview 1b, p.1).

During the pilot phase a large proportion of the development work was devoted to the production of modules. The development of modules is considered as never-ending¹. The following diagram² shows how the constant process of development, testing and revision was structured:



1 See Houston et al., 1971 and interview 17, p.2.
2 Houston/Jones/Howsam, 1973, p.188.

In 1973 there were 97 modules for the different program areas, 17 for the instructional strategies area (teaching I,II,III), 14 for the affective modules area, 49 for various content-specific educational areas, of which 23 were for the Mathematics Education Area¹.

A report put out in October 1975 says: "Some 200 modules presently exist in some form for use by the students in the University of Houston undergraduate program. Most of these modules went through some form of revision during the 1974 - 1975 school year."²

A considerable proportion of the modules existing at that time were for the Teacher Education Program Area courses³.

It is a fair bet that the number of the modules developed at the College of Education has considerably increased by now⁴.

But the Teacher Education Program Area is probably still in the lead. Whereas in other program areas specific lists of competencies have not been forthcoming to date (October 1976), it has been an asset for this program area to have relatively detailed competencies, i.e. the list of generics, at its disposal (see section 4.5.2).

The planned comprehensive program design not having materialized to date⁵, the development has been relatively unsystematic and largely determined by the subjective interests of the educators who evolved the various modules, although, especially in the Program Unit Secondary Education, the educators responsible for a course in a Program Area joined in teams⁶.

"We first developed the easy modules. The "easy" modules are those which most please the students, which were most interesting to us, and for which we felt most competent. However, we tried

1 Houston/Jones/Howsam, 1973, pp.144-186.

2 Jones/Houston et al., 1975, p.55.

3 See examples given in Jones/Houston et al., 1975, pp.56/57.

4 No data are available here.

5 See 4.5.2.

6 See also 4.4, characteristic 5 of the matrix organization.

to delimit our domains in order to avoid overlaps but also that they complement each other. We sought a consensus so that the content of the program be no longer dominated by personal preferences." (Interview 6, p.7)

"Modularizing" was anchored as a characteristic of PTPP in the fundamental decisions on program characteristics of 1975¹. Thus the use of modules in instruction was more or less prescribed. This practice gradually gained ground; exceptions are to be found in the compulsory introductory course FED 361 (Foundations of Education), which is run by the department with the same name.

In the first year of implementation, the educators of this department were also compelled to use modules in courses. This obligation was removed later on because of the resistance by a group within the department.

Today the modules are used on a voluntary basis for the courses of this department; only a small number of educators use them. A member of the Foundations of Education Department gives the following explanation:

"In principle FED 361 is a psychology course. But in general the students for whom this course is intended are not familiar with psychology. It would not make sense then to recommend them to work individually with modules of any kind. How could they acquire interactive skills; for instance?" (Interview 14, p.1)

At the college, the opinion is generally prevailing that some instructional areas are more strongly opposed to modules than other; this could even be said of whole areas of education: "Some subjects such as 'social sciences' are far more difficult to modularize. In the social sciences, instruction is necessarily more interactive, which individualized modules cannot do justice to. More seminars and the like are needed as forms of instruction, and the piecing together of modules into a course must be done more creatively. In mathematics education it may

¹ See program characteristic 8 in Memorandum of April 9, 1975, Attachment Three, p.5, quoted in 4.5.1. of this text. The program characteristic also contains an accurate definition of the concept of "module" as it has developed in Houston. See introductory passage in this section.

be easier to achieve some kind of 'modular format' of instruction." (Interview 6, p.3, see also p.6/7).

"It is ridiculous to have the students acquire interactive skills through modules. Such skills are acquired in action. Modules reduce the highly important personal aspect of instruction. Important educational goals in self-development or in attitudinal modifications cannot be achieved by having 500 people go through the same module package." (Interview 14, p.1/2)

The educators' views of what can be achieved through module instruction and of how the students accept it are very different: "Many of them have perhaps difficulties putting everything together again. But what is to be achieved through a module is well achieved." (Interview 13, p.3)

"It is my impression that the students are not very happy about the modules they receive here at the college. At the beginning, the educators were not used to the module system and made mistakes in using it, leaving the students alone, for instance. The students often feel they are offered too little theory. The modules requisites are not transmitted through a well-defined 'body of knowledge', but through the 'art of doing'." (Interview 2, p.4)

In Houston, experience has been gained in the meantime with the use of the module system, which led to revisions and more flexible use of the original system. This is not only true of the FED 361 course: "At the start, it was easy to win the students for the system, but we lacked knowledge on how the student work with the 'modules'. ... There were many setbacks, but after the event it is clear why it so happened: many students are not able to work by themselves. Fortunately, seminars, lectures and 'good' professors had been planned." (Interview 9b, p.2)

The frequency of use does not say anything about whether the educational goals pursued with the modules have really been

achieved. Hall's above mentioned study (see 4.5.6,c) stated that a shift towards impact concerns occurs very rapidly in the Houston educators as soon as they start working with modules. This allows the conclusion that where modules are used, they are not used in a formal way, just to circumvent embarrassing standards.

4.5.4 Program sequence

At the beginning of the implementation in 1972, one was faced with the problem of fitting the structure of the pilot program to the compulsory course system. The sequential structure of the pilot program was not intended as a sequence of fixed learning experiences (courses) but as a sequence of competencies¹ to be acquired which could be learnt individually in different ways, the student working at his own pace. The structure of the program was intended as a framework for the student to organize his studies from the point of view of content and time². Since the course system could not be abolished as an organizational framework because of administrative resistance, a compromise had to be found between the prescriptions of this system and the sequencing principles of the pilot program. This resulted in the following phase structure of the new program³:

Phase I: General introduction to the teaching profession
(2 courses)

Phase II: Specialization according to subjects, school levels
and/or special teaching tasks (2-10 courses)

Phase III: Practical professional education (equivalent to
2 courses).

¹ See diagram of the program structure of the pilot program, Appendix 4.

² The first section of the education program (including Teaching Unit I) is scheduled to last one semester, the second section (including Teaching Unit II) one or two semesters in the secondary and primary teachers education, the internship one semester.

³ Besides the already existing courses "elementary certification" (grades 1-5) and "secondary certification grades(6-12), the course "All Level" was also included in the pilot program for sports, music and arts teachers of all school types. The program structure developed in 1973/74 is still valid today.

Each phase takes 1 semester excepted phase II, which takes 2 semesters in elementary teacher education.

Whereas in the traditional program only one program was offered to all students, different courses of studies were organized in 1972/73. When starting with his studies, each student has to choose one of these courses of studies. Each course of studies is in the responsibility of a team of 4 to 6 educators, one of them having the leadership. According to the educational objectives the students may opt for: the Elementary Team, the Early Childhood/Elementary Team, the Special-Education/Elementary Team, the Secondary Team and the All-Level Team. The grouping of the students according to their educational goals at the very beginning of the program is meant to secure a stronger orientation of the education to the specific professional objectives. The previous situation can be described as follows: "In preceding semesters students signed up for a course, a section, a professor, regardless of their backgrounds or their career aspirations." (Houston 1974, p.108)

The course sequence is now strictly prescribed, and a deviation from it is possible in exceptional cases only and with special permission. The purpose was here to achieve a unification of the previous knowledge and experience of the students and to allow real progress through the program. In the old program sequencing of the course was only rudimentary: "Students in this program take C&I 362 and FED 361 and after acceptance into the College of Education, take the remaining EED courses in any sequence they wish (usually determined by whether or not the computer will allow them into classes)." (Houston/Jones/Howsam, 1973, p.109)

Field contacts are firmly rooted in the program and accompany all courses. Several schools of the Houston Metropolitan Area are assigned to one of the 5 teams of educators; 10 schools are assigned to the Elementary Team for 78 students for instance. The schools are selected so as to represent as

adequately as possible the range of schools in the Houston Metropolitan Area. Each course, and even each module, requires field work in schools, a total sum of 3 hours a week. A strong emphasis is placed on the continuity but also on the multiplicity of the field experiences. In the first weeks from the 5 schools he visits, the student chooses one in which he will gain all practical experiences including the internship, often in one class with one teacher. This is justified as follows: "We hypothesized that the teacher who is placed in a situation calling for acclimatization into a different sociological or cultural grouping should spend much more effort in coping if he/she were also 'learning' how to teach. The decision was made to allow students to select a school in which they felt 'comfortable', at least for the beginning portion of the program." (Houston, 1974, p.111)

The theoretical basis for sequencing the competencies in the pilot program was Fuller's "Concern Model" (see 3.2 and 3.3). In implementing the pilot program one first stuck to this model, in spite of the constraints of the course system. But other than in the pilot phase, it was no longer used stringently in practice. True, certain elements of the concepts such as taking into account the motivation of the students by their previous experiences were maintained, but there were also deep-going changes. So according to the concern model, a course on the foundations of education is best placed at the end of the program, when the students' interests gradually shift to the effects of the teacher's behaviour on pupils (interview 5, p.2), whereas the new program of the years 1973/74 already contained the corresponding basic courses in phase II¹.

The significance of the model as a mandatory sequencing principle was further limited as it appeared that the pilot program could not be directly implemented and that a new phase of development work had to start. Today the Fuller Model is only one more way of interpreting the sequencing of PTPP. As a program, it is no longer binding.

¹ In the academic year 1976/77 the compulsory courses "Educational Foundations for Teaching" of Secondary Certification and All Level have been advanced even in Phase I.

"At present the sequencing is rarely based on the Fuller model... . There is pluralism in the field of the sequencing principles too. Some educators even resort to Gagné's learning stages. There are significant differences, from the 'strict behaviorist' to the 'phenomenologist'. The prevailing principle is rather that of 'mastery learning'... . There is no agreement on this point; it is less the validity than the usefulness of the Fuller Model which is opposed. Some stress its diagnostic value, others point out that concerns are also open to influences." (Interview 16, p.4)

Another member of the college remarked: "Many colleagues do not even know who Fuller is." (Interview 9a, p.3)

There is no agreement either on the significance of the Fuller Model as a basis for future program sequencing. Some feel that the future development of the program is bound to be based on the Fuller Model (Interview 9a, p.2/3), others believe that steps should be taken to ensure that students exercise through their individual decisions on offerings and the pace of learning a greater influence on the sequencing than the program design itself (Interview 16, p.4)

4.5.5 Programme structure and the individual development of students

a) Individualization and personalization in the pilot programme

Since the very beginning of the development of the pilot programme the aim had been to work out an individualized and personalized CBTE programme¹. And the experimental programme which came out was, according to an unanimous statement, strongly personalized and individualized².

Towards the end of the pilot phase, i.e. in May 1973, M.Vere DeVault of the University of Wisconsin and one of his co-workers carried out an empirical study on individualizing in the CBTE programme of the University of Houston. To this purpose, they used a set of instruments devised by DeVault for covering as exactly as possible the various dimensions of individualized instruction in a training programme, be it planned or already in force³. Here are the main results of this survey:

1. Decisions on learning and on the medium to be used are usually made by trainers and students together. In large and medium sized groups, the trainers' influence on these decisions is very significant, but in small groups and in the case of self-studying students, who make up the major part, it is the students themselves who decide to a large extent on their learning activities. The students dedicate about 30% of their time to self-studying.
2. The programme courses are largely self-sufficient, but in each course, the module sequence - which looks like a network - is prescribed. At the knots of this network options are offered to the student.

1 Individualization and personalization are 2 of the 4 intended characteristics of the programme; see 3.3(b), also on the concrete forms of these characteristics in the pilot programme. See also this section.

2 See quotation at the end of 3.3(b) and exemplarily, Atkin/Raths, 1974, pp. 29/30.

3 For the instruments see DeVault, 1974; for the outcomes of the survey see Houston/Jones/Howsam, 1973, p.256-79. The descriptors used are: 'Objectives', 'assessment', 'sequence', 'rate', 'media', 'grouping' and 'management', see DeVault, 1974, p.40ff.

3. The students' learning pace is variable but the semester remains the prevailing unit of time. There are only few students who take the programme in less or more than 4 semesters.
4. Results assessment takes place at small intervals and is not restricted to cognitive aspects. Besides written tests, the acquisition of skills¹ and concepts is above all assessed by means of informal observation.
5. Apart from the modules, which can only be taken once a test has been passed, and which are considered terminated only after a closing test, there are also modules only designed to provide the student with some experience without a measuring of the learning outcomes being involved. The experience aimed at in these modules is of the exploratory², affective or expressive kind.

It was however the initiators' intention that the pilot programme should not only be individualized but also personalized. Just as individualizing, personalizing is not, and even less, restricted to one specific aspect of the programme³. On the contrary, the interwovenness of the measures to be taken at different levels is even more characteristic of the personalizing concept than of the individualizing one. Even if the pilot programme does not wholly conform to the Fuller Model⁴, the latter's deep influence is undeniable.

The sequencing is directly based on the Fuller model. However, important implications of this model, such as postponing the 'Foundations of Education' courses until the end of the programme have only been partly implemented. By contrast, Fuller's requirement that the personal and professional development of the teacher student should be promoted by a

¹ For the notion of skill, see I.5.2 of my dissertation.

² E.g. "to participate in a group and examine the process of the group" or "to participate in a discussion group and receive feedback" (Houston/Jones/Howsam, 1973, p.156).

³ The following items served the personalizing: the intensive counseling of students, the use of different kinds of feedback, the retreats, the setting up of stable working groups for the duration of the training programme, the assigning of each student to a team of 4-5 educators for the whole duration of the training (Houston/Jones/Howsam, 1973, p.110) and the inclusion of affective learning units in the programme (affective modules).

⁴ See 3.2(b) and 3.3(b).

richer and more imaginative range of learning experiences has been taken very seriously. One of the five components of the pilot programme (Personal and Professional Perceptions) is exclusively dedicated to this aim¹. Fuller's influence is also undeniable in the counseling arrangements of the pilot programme². It is even to be observed in the instruments and procedures used³.

b) Problems met in connection with the extension to the whole programme

The massive growth in the numbers of Students to be coped with as the pilot programme was extended to the whole college not only aggravated the logistic problems linked to guiding the individual students in their progress through the programme, but also the problem of growing anonymity (see interview 14). The solution used in the pilot programme for both problems - setting up stable learning groups and assigning an educator to each student, and intensive individual counseling by trained personnel - could not be adopted without corrections for the whole programme because of the scarcity of the financial and personnel resources. Account had especially to be taken of the worse qualification and of the different interests of the regular training personnel as compared to the pilot programme⁴.

In spite of the foreseeable difficulties raised by individualizing the programme, even under the new conditions, individualizing and personalizing were kept programmatically as training objectives. The newly enforced standards for teacher education in Texas amplified this tendency, demanding that students be catered for individually (see above). The pilot programme requirements pertaining to individualizing and personalizing were further elaborated, extended to the schools

1 See above 3.3(b).

2 See above 3.3(b).

3 See above 3.3(b).

4 This concerns the university members participating in teacher education, as well as the teachers and school administration personnel involved. In Houston, both groups are referred to as 'teacher educators'. A difference is made between 'school-based' and 'college-based' teacher educators.

and incorporated into the premises of the new programme (see above 4.5.1). They were adopted in the form of programme characteristics 6 and 7 ("humanized and personalized") as imperative requirements to be met by the instructional system. Moreover, they are implicitly included in teaching competency 12 ("Identifies and reacts with sensitivity to the needs and feelings of self and others") and thereby in the catalogue of objectives of the education programme.

c) Individualizing and personalizing in the implementation phase

The implementation of the pilot programme was accompanied by significant cuts in the individualizing and personalizing achieved in the pilot programme, so that the results fell short of the programmatic targets. Whereas there had been only few paired courses in the pilot programme, i.e. courses which had to be taken in succession, the course sequence is now largely prescribed. The individual interests of the students can now just be taken into account in the shaping of the individual offerings (interview 8, p.3). Individualizing is restricted to the influence exerted by students on teaching methods, exam procedures and feedbacks¹.

The social organization of the learning environment also changes for the students. The small group of students, which remained stable through the whole programme and was continuously catered for by three persons of the teaching personnel, and which played a significant part in the personnel development area, is now replaced by a more anonymous social environment. True, the teacher students are divided into several programme groups of 50-100 students each, for which a team of 4-6 educators is responsible, but no internal structure has been given to these large groups. For securing as far as possible a personal contact between educators and students,

¹ In the questionnaire, the students assess their influence - on a 4 point scale (large, medium, small, no influence at all¹ - as medium to small for the structure and the content of the programme, as large to medium however for the teaching procedures, the exam methods and the kinds of feedback; for the questionnaire form see Appendix 3.

the principle of one and the same educator catering for the students has also been maintained. At the same time, administrative facilities which are important to the student (Field Service, Program Director, Co-ordinators for Elementary and Secondary Education, Certification Analyst, Degree Plan Analyst) are located in the same building near the training site; mail boxes are mounted at central places in order to facilitate quick contacts and a fast exchange of information and of materials for all students and educators¹.

The initial phase of the programme is being totally revamped, the individual counseling of the students significantly curtailed. The retreats, which have been a standing ingredient of the first training phase, are cancelled. The use of the Personal Assessment Feedback (PAF, see above 2.3.2), previously compulsory for all students, is now only optional and has been removed to the second training phase (Houston, 1974, p.67/68).

As the resources available, tailored to the pilot programme, made it impossible to solve the increased logistic and psychosocial problems of guiding the students' individual progress in compliance with the programmatic individualizing and personalizing requirements, measures were devised for coping with these problems at a higher organizational level. Some of these measures are the further development of the instruments available for collecting counseling relevant data on students and the development of a data processing (retrieving) system to provide a basis for the numerous decisions to be made in the course of the programme.

c1) Further development of the data collecting system

Although a check of the 5 admission tests² already used in the pilot programme showed that there are only 'supportive overlaps' between them, that they, consequently, afford a con-

¹ See Houston, 1974, pp. 10-13.

² The Edwards Personal Preference Schedule (EPPS), a test devised for measuring personality factors; the Minnesota Teacher Attitude Inventory (MTAI), a test engineered for investigating the attitudes towards the teaching profession and pupils; the Rokeach Dogmatism Scale (RDS); the Work Motivation Index (WMI), used for evaluating the students' motivation; and the Vocational Preference Index (VPI), which tries to assess personality characteristics and vocational preferences; see Houston, 1974, p.41.

sistent test battery (Houston, 1974, p.49), alterations were decided. The EPPS (Edwards Personal Preference Schedule), for example, which takes too much time and includes areas, such as sexual behaviour, in which students do not like to be questioned, was replaced with another personality test called 16 PF¹. Following the wish expressed by many students to know to what extent they meet their self-imposed professional development standards², a self-assessment instrument was engineered to supplement the test battery. It gives the student the opportunity to form, by means of a multidimensional scale, an accurate idea of how they see the 'ideal teacher', and to mark at the same time their stage of development on this scale. The outcome is then discussed individually with the educator responsible for counseling the student. What is discussed is then a comparison of the self-assessment by the student with his ideal representation, not a comparison with other test outcomes.

The competency measuring instrument developed for the pilot programme (PAR, see 2.3.2 and attachment) also soon proved inadequate to the aims of the whole programme. The problem was here that no agreement could be achieved over what competencies had to be transmitted to students as the pilot programme was extended to teacher education at the whole college. It was therefore necessary to seek an agreement over the competencies to be transmitted by the programme before starting to adapt the Proficiency Analysis Rating Instrument of the pilot programme to the new conditions.

Once a provisional list of 16 generics had been developed in the early summer 1974³, a new version of PAR could be elaborated⁴. But a short time later, a revision of the instrument

1 'PF' = 'personal factors'.

2 See Houston, 1974, p.55/56.

3 For the list of generics in force which are not completely operationalized to date (October 1976) see 4.5.2; for the list of competencies then in force see Houston, 1974, p.36-40.

4 Just as the original version of the PAR instrument, the adapted version also measures the competencies indirectly, i.e. through indicators which have to be weighed in each case according to the competency in question and to the situation variables. However, the adapted version is less elaborated than the original one. This is due to the need to have a consensus among all educators involved in PTPP over competencies and indicators; see 4.5.2.

also appeared necessary. Once again, the bone of contention was what was to be considered as 'final' generics. After several revisions of the catalogue of competencies and of the competency measuring instrument, on which members of the College of Education, representatives of the schools and of the profession, as well as experts of other universities had been working, the instrument was finally tested in the spring semester of 1975 on 250 elementary school teacher students and with 25 supervisors. Teachers were also involved in the interpretation of the experience gained this way.

This finally led to a provisional 'final' version in the middle of 1975, which has nowever been revised several times¹.

A PAR instrument has also been developed in the same way for secondary school teachers. Originally, this instrument was also designed for measuring general teaching competencies, but the development of corresponding instruments for measuring specifics was also undertaken and intensified from the middle of 1975².

Parallel to the further development of the PAR instrument, the experience gained with individualizing and personalizing the training programme was also used in order to get additional criteria for counseling. It was noted "that some students prefer the open-ended process, where they are responsible for their pacing and for the selection of materials. Other students prefer a much more structured mode where what is learned and the mode for learning are determined by an external person, such as an instructor. It is also recognized by all instructors that some students seem to get more from reading than

¹ All in all, this process of revision is less the result of systematic refinements of the instrument - e.g. on the basis of empirical research - than the expression of the need to permanently secure a consensus over the programme goals at the level of verifiable competency indicators, especially among the school-based teacher educators. Therefore, a definite trend of development is not likely to emerge in the near future and cannot be observed either.

² See Jones/Houston et al., 1975, p.42-48. However, no catalogue of specifics has been published to date (October 1976), see interview 3.

from listening to lectures; still other students react more favorably to situations where they work with other students in structuring their individual learning environments."

(Jones/Houston et al., 1975, p.58)

The tests offered at the beginning of the programme were obviously no sufficient guidelines for these students nor for the instructors inasmuch as they did not take into account the individual preferences for some learning environments.

"These and other factors have led a number of educators to search for measures of students' Cognitive Styles (their preference to gain meaning from their surroundings). The logic is that if students are learning in their preferred mode of learning, they will learn more and faster.

Similarly, there is some evidence that a prospective teacher's Cognitive Style will be reflected in this teaching style."

(Jones/Houston et al., 1975, p.58).

The instrument then developed in Houston for measuring cognitive styles was essentially based on a design elaborated by Joseph Hill et al. at the Oakland College of Michigan, called 'Cognitive Style Mapping'.

The original testing instrument postulates 4 categories of factors which characterize the individual style in the appropriation of meanings: 'theoretical symbols' (preference for language or abstract-symbolic representations); 'qualitative symbols' (sensitivity to esthetic and moral stimuli); 'cultural determinants' (what persons/groups of reference do influence the learning behaviour?); 'mode of making inferences' (how rules are constructed and used by individuals, contrastive or synthetic thinking, etc.).

A first pilot testing of a version of this instrument, used at the Mountain View College in Dallas "... to channel junior college students into modes of teaching that they might find

more effective"¹ was conducted in October 1974 on 75 elementary school teacher students. The students' response was so positive that the search for improvement soon started. An adaptation of the testing instrument was undertaken in close collaboration with members of the Mountain View College². Multiple trials and revisions led in 1975 to the version which is still in operation today. In order to help the students interpret their test results, a student handbook has been elaborated, which explains the purpose of the test, the principles and hypotheses underlying its construction, and which deals with the treatment and interpretation of the collected data³.

c2) Further development of the data processing system

The data processing system was adapted to the new requirements parallel to the further development of the data collection instrument.

The above test instruments are especially used for individual counseling. The collected data still do not allow an overview of all programme ramifications. An effective management of an individualized training programme however requires a data basis that provides a sufficiently precise and multidimensional picture of the actual programme conditions, as well as processing techniques allowing the adequate retrieval of the information needed for making a special decision.

In the pilot programme, a student protocole sheet showed the competencies the student had acquired in the course of his studies. The pertaining data were fed into a computer and could be recalled at any time by the instructors for counseling. The advantage of this system was that, because of their low

1 Jones/Houston et al. 1975, p.59.

2 Some of the scales originally used, especially those for sensory sensitive scales, proved of little value in Houston, probably because the surveyed students were senior students. Moreover, the standards had to be adapted to the changed situation; see Jones/Houston et al. 1975, pp.64ff.

3 The student handbook is printed together with the testing instrument and used in: Jones/Houston et al. 1975, pp.79-89.

degree of formalization, these protocols sheets were well suited for covering the highly varying education programmes taken by the students. As the number of students increased quickly in the fall half year of 1973, this system proved however too complicated and unmanageable.

The development of a new computer-aided information management system was then undertaken with funds supplied by the Texas Center for the Improvement of Educational Systems (TCIES).

The development work was completed in the academic year 1973/74, and the system was applied to the whole programme for the first time. The experience gained by other institutions with similar information management problems¹ was also used here.

In the main, this information management system operates with two types of data: programme data and student data. Programme data include the objectives, the programme ingredients and the modules. Student data include information pertaining to the student's personal background, his/her educational background, his/her study aims, his/her majors and the modules already taken, or not yet completed by the student².

Several reports can be recalled for facilitating the access to the data: the Long Report, which consists of all data available on a student, the Short Report, including data on the student, his/her educational background and the completed modules; the Transaction Report, a list of all alterations of the memorized data; the Title Report, a list of all components, modules and objectives, and the Completion Report, which is a list of all persons who went through the programme and received their certification.

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- 1 Co-operation with the University of Wisconsin has been very intensive. A 'prototypic computer-managed instructional system for competency-based teacher education' developed there with the financial help of the National Center for the Improvement of Educational Systems (NCTES), MICA (Managed Instruction with Computer Assistance) was also put on trial at the University of Houston; see Houston, 1974, p.16. In further developing its system the College of Education of the University of Houston took care that it was compatible with MICA; see below and Jones/Houston et al., 1975, p.117.
- 2 The outcomes of the 5 admission tests EPPS, MTAI, RDS, WMI and VPI were stored separately.

There is a distribution list for these reports. Only the programme director receives automatically all reports at regular intervals; all other programme participants receive only some of them on request. The students only have access to their own Short or Long Report.

However, the above described information management system was only a short time in operation. In the fall 1974, one year after implementation had started, it was already used for just a few students on the argument that the implementation phase was not yet ended and that a process of revision was going on¹.

But at the College of Education the opinion at that time was that the development of the information management system was terminated. "The system is ready" (Final Report, p.24)². But as the College was reorganized (see above, section 3.4), and as the demands made on the planning grew from half year to half year, this point of view proved untenable³. The next year (1974/75), the conceptional frame was set up for a far more comprehensive information management system tailored to the new demands on the one hand, and which was to be compatible with the old information management system on the other. Parts of this new system were operationalized in the same year and used in PTPP.

In the following we shall outline the main features of the conceptional frame of the new data processing system (data retrieval system) and the present state of development of the whole system⁴.

1 Houston, 1974, p.24; for the information management system, see Houston, 1974, pp.14-24 and Appendix C, pp.143-152.

2 Nevertheless, it was not wholly put to use because of the programme development process that started just at that time; see preceding chapter and p.106.

3 Until the programme operated to capacity, i.e. after 4 half years, as the first students educated on the new programme left the College of Education, 600 new students joined the programme each semester, see above 4.2.

4 No recent material being available on the period after fall 1975, this study can only investigate the developments before that date.

Being one of the undergraduate programmes of the University of Houston, PTPP must meet the general goals and interests of the university as a whole. It is for instance in the University's interest that the undergraduate programmes have a stable stock of students in order to secure the institutions's survival and continuity in research and teaching. "To meet this need, the Professional Teacher Preparation Program must have established admission standards which are based upon indicators of student potential which are both reliable and which have been shown to possess predictive validity when applied to students within the program." (Jones/Houston et al. 1974, p. 98)¹

Conversely, PTPP depends on the data provided by the university for estimating the prospective number of applicants for PTPP². For PTPP these data are however only of use for an empirical check - at least of the internal pronostic value of the selection criteria and procedures used - if they are coherent with the data collected at the College. A first demand by PTPP on the information system as a result of this is that it should be compatible with the university's one and take into account the needs of other potential users (Jones/Houston et al., 1975, p. 99).

In view of the peculiarities inherent in embedding PTPP in the organizational and decisional structure of the College (see above 3.4.) PTPP can only count on the College of Education's assistance if it meets the interests of the personnel and of the students working there as far as work and qualification opportunities are concerned, as well as the need of these organizational units to be responsible to the University and to the academic disciplines it represents (Jones/Houston et al., 1975, p. 95).

¹ It has already been mentioned that such admission standards boost the prestige of the programme and that this motive has played a significant part; see 4.2.

² PTPP begins in the 3rd year of study (the "junior standing" is required); the applicants are almost exclusively recruited among the students of the University of Houston itself.

Another consequence of this is, secondly, the need for the information system to bring PTPP's requirements as far as possible into line with the interests of Departments of the College of Education and of the groups represented in it (Jones/Houston et al. 1975, p. 95).

A third set of demands on PTPP's information system ensues from PTPP's specifics. We must state here above all the programme characteristics included in the Memorandum of the Program Development Director¹, which were negotiated at the College (see above, especially 3.5.1). The discussion over operationalizing them is not yet closed (October 1976) (see 3.6). It is understandable then that it was not clear either when the data retrieving system was developed how the programme specifics were to be incorporated into the programme. "The extent to which the program and management characteristics actually affect the management information system is not yet clear." (Jones/Houston et al., 1975, p. 100).

Nevertheless, it was required that the information system should meet as far as possible the specifics of PTPP, so that PTPP can best benefit by it. Besides the specifics of the PTPP instructional system, the management system specifics had also to be taken into account in developing PTPP's information system, for gearing it in an optimal way to the needs of the programme management.

It was predictable that under such frame conditions the development of a system for collecting, storing and processing data (data retrieving system) would involve a lot of organizational and technical work. Therefore, one started from the idea that the system was not only to supply information to students and educators for the individual counselling of students, nor to the programme management for controlling the programme as a whole, but that it should also provide a data basis for a formative and summative

¹ See Appendix 6.

evaluation of the programme, as well as for empirical research on the programme in general. The system was therefore based on the following idea of the training process: through the PTPP programme the student is confronted with a series of learning experiences to which he responds in some manner or other. These responses called "training effects" are influenced by 4 classes of factors:

- the individual student characteristics
- the general program characteristics
- the educator characteristics (faculty characteristics)
- the special characteristics of the programme section (program structure)¹.

Therefore, for fulfilling its main functions with respect to student counselling, programme management and evaluation, the data retrieval system should be so conceived as to collect data on these four dimensions.

The following overview shows these dimensions; the variables which were computerized, at least partly, by October 1975 are marked with an asterisk.

Fig. 1

**Summary of Dimensions of
Characteristic Files in the Data Bank²**

Dimension One: Student Characteristics

- A. Background**
 - 1. Demographic Information - SES*, Sex*, Age*, Marital Status*, Race*
 - 2. Psychological Profile - 16PF*, MTAI*, OS*, WMI*, VPI*, ASD*, SRI*
 - 3. Intellectual Abilities - IQ*, GSI*, Academic History*, GPA*

¹ Jones/Houston et al., 1975, pp. 112/113.

² Jones/Houston et al., 1975, pp. 115/116.

- B. Attitudes
 - 1. Toward Schooling
 - 2. Toward CDE Program Characteristics*
 - 3. Toward Others (Generalized)
 - 4. Toward CBTE Program Structure Elements*
 - 5. Toward Faculty*
 - 6. Toward Children
- C. Achievement
 - 1. By Characteristic of the Program
 - 2. By Structural Area of the Program*
 - 3. By Characteristic of the Materials
 - 4. By Faculty*

Dimension Two: Program Characteristics

- A. Reality Based
 - 1. Field Based
 - 2. Role Model Based
 - 3. Competency Based
 - 4. Criterion Referenced
 - 5. Pluralistic
- B. Person Based
 - 1. Humanized
 - 2. Personalized
 - 3. Modularized (module as concept)
 - 4. Students Held Responsible
- C. Individualized
 - 1. Multi-Instructional
 - 2. Instructionally Flexible
 - 3. Modularized (module as unit)
- D. Accountable
 - 1. Time/Achievement Referenced
 - 2. Regenerative
 - 3. Single System with Alternatives Within It
 - 4. Systematized

Dimension Three: Faculty Characteristics

- A. Background
 - 1. Demographic Information*
 - 2. Psychological Profile*
 - 3. Intellectual Abilities*
- B. Attitudes
 - 1. Toward Schooling
 - 2. Toward CBTE Program Characteristics*
 - 3. Toward Others (Generalized)
 - 4. Toward CBTE Program Structure Elements
 - 5. Toward Students
 - 6. Toward Children
- C. Achievement (of their students)
 - 1. By Student Characteristics
 - 2. By Program Element
 - 3. By Characteristic of the Program Materials

Dimension Four: Program Structure

- A. Generic Component**
 - 1. Generic Element**
 - a. Generic Module**
 - (1) Generic Competency
 - (a) Generic Criterion - standards - conditions
 - (2) Generic Experience
- B. Methods Component**
 - 1. Methods Element - Math Ed., Science Ed., Social Studies Ed., etc.**
 - a. Methods Module - commutative properties**
 - (1) Methods Competency
 - (a) Methods Criterion
 - (2) Methods Experience
- C. Foundations Component**
- D. Multicultural Component**
- E. Related Areas - Child Lit., Art Ed., HPE, etc.**

As it appears from this summary the variables to be computerized are only partly operationalized by stating the data retrieval instruments. The operationalization of the second and fourth dimensions, which concern the programme itself, is however still totally open (see below 4.5.6)¹. Obviously, the development and use of the information management system had limitations where the programme concept itself was not sufficiently worked out. For this reason the use of electronic data processing systems was limited to subfunctions which were less ambitious from the point of view of the concept (Jones/Houston et al., 1975, p. 121). The most important data processing programme "SELECT" is rather geared to research than

¹ It appears clearly that the programme characteristics mentioned in the above summary of variables are not wholly the same as those mentioned in 4.5.1, which are programmatically valid to date (October 1976). The (small) differences result from the fact that both documents were completed at nearly the same time. The Memorandum of the Program Development Director was not available as the above list of variables was made up. In connection with the development of the information management system the trial was made to state the operationalization then valid at the College of Education for each characteristic of the above summary. Apart from that of the management system (belonging to dimension 2, D.4) there is no consensus at the College over these operationalizations, so that these may be left out here.

to management requirements.

This is not because the planning problems are very difficult to handle from the point of view of data techniques; but also because as a consequence of the redevelopment of the programme on a more pluralistic basis in 1975, the programme outline and the planning work could not be determined clearly enough for translating them into a data system. That the potential of electronic data processing is only used to a limited extent is therefore less due to a lack of know-how on information techniques than to the lack of a sufficiently clear programme concept.

This information system seems to supply enough data for counselling and for individual programme planning by the students. Since the possibilities of choosing individually one's way through the programme had to be massively cut as the pilot programme was extended to the whole college, students and educators do not need large amounts of data for the decisions which have to be made here. The students' freedom of choice concerns primarily the modes of learning and of feedback within the "modules" as well as alternatives in the choice of special courses¹.

For improving the rational character of decisions on optimal modes of learning for individual students, for generating general criteria of assignment, and in order to make the counselling more reliable and more efficient for large numbers of students, researchers in Houston are working on improving the testing instruments by means of empirical research for which the information system provides the prerequisites. Where the programme dimensions are important, problems can

¹ The interviewed students all made positive statements on these possibilities. They especially stressed the advantages of frequent feedback on their own learning progress for regulating their learning process (questionnaire V.4, VI.3). By contrast, the students rated their influence on the content and structure of the programme as very small (V.5).

obviously only be mastered by reducing the corresponding demands or by raising significantly the organizational, technological and scientific level of decision making. It is only once this has been achieved that more alternatives can be opened for individual decisions. Hope is expressed in this sense by a leading member of the College (interview 16, p. 4).

The problems of personalization seem to be mainly dependent on personnel resources. Although efforts were made since the beginning in Houston to defuse the objection often put forward by CBTE critics that CBTE was "mechanistic" and "inhumane"¹, and although personalizing has played a large part in numerous programmatic decisions, it has not been possible to maintain this demand at its original level². The special quality of the pilot programme as an "ideal linkage of CBTE with personalized teacher education" (interview 5, p. 15)³ could not be salvaged in the implementation. According to the almost unanimous opinion of the persons questioned, the programme as it stands (October 1976) cannot be said to be personalized.

1 See exemplarily Merrow II, 1975, pp. 19/20.

2 The questioned students however all judged the counselling very satisfactory; see questionnaire III, 1 and 2.

3 See also 3.3(b).

4.5.6 Evaluation

a) The significance of evaluation for CBTE programmes

It would be difficult to find a CBTE author that would not stress the importance of competency assessment and programme evaluation for any CBTE programme. At the same time, nobody would dispute that evaluation is one of the implementation problems of CBTE programmes so far least mastered by theory, and the treatment of which also presents difficulties.

According to a recommendation by the AACTE Committee on Performance-Based Teacher Education, a CBTE programme should not be considered implemented as long as a plan for evaluating the programme has not been completed¹. This recommendation was intended to oppose the widely spread tendency to neglect programme evaluation, eclipsed by the current tasks of programme development and programme management: "It is the Committee's judgement that many local groups trying to cast all or part of their teacher education efforts into a performance-based mold have their priorities mixed. Because they do not grasp the full significance of evaluation or because they undertake program development with inadequate resources, and no doubt partially because evaluation is difficult and threatening, most programmes put a disproportionate amount of available time and energy into development of instructional materials and program management and invest much too little in assessment." (AACTE Committee on Performance-Based Teacher Education, 1974, p. 20)

CBTE expert Dickson comes to a similar assessment of the significance of programme evaluation for the development and implementation of CBTE programmes: "Although the development of assessment and evaluation procedures involving CBTE are in their infancy, there can be no excuse for not immediately attempting them in the entire process of CBTE

¹ AACTE Committee on Performance-Based Teacher Education, 1974, p. 20.

development and implementation." (Dickson, 1974, p. 8)

If we try to understand why evaluation is, in theory as well as in practice, one of the central problems of CBTE, it is important to recall the key function of the notion of regenerativity in the CBTE concept¹. The basis of any self-regulation in a system is the comparison of actual values with set values. It is the task of the evaluation system to carry out this comparison permanently and systematically within the framework of the whole system. Comparing actual and set values does not only concern basic data of the programme as a whole, although these are decisive in the last resort, but all subfunctions and subsystems. The instructional system (from its elements to its overall structure, from the individual educators to the whole teaching staff), the decision and management system, the data system and finally the evaluation system itself are parts of it. The main function of the evaluation system is not the monitoring of the results of the education programme as a function of programme characteristics, although this would surely be an essential task, but to control the education processes and the processes of programme development and implementation.

Developing an adequate evaluation system requires much planning work and agreement over evaluation criteria; this is a much more complex and comprehensive task than working out a list of competencies accepted by the whole institution².

1 See the characterization of the CBTE concept in chap.II.1.4 of my dissertation as well as the program models described; see also 4.5.1.

2 Developments in Houston suggest that the building of a consensus over lists of competencies always becomes difficult when linked to an agreement over the methods to be chosen for assessing competencies; see the inter-relatedness of the development of the competency model with the development of the competency measuring instrument PAR.

Difficulties seem to have also arisen where specific competencies had to be assigned to specific programme components. The lacking specifics and the unsolved problem of sequencing point to this; see 4.5.2 and 4.

Great difficulties arose in Houston in connection with the attempt to develop a data collecting and processing system that can be used for daily instruction management as well as for programme evaluation¹. It emerged that the major problem was less a problem of information techniques than one of concept and that it is still not clear what data should be collected and what not. This seems to be also the major problem for programme evaluation.

Although great importance has always been attached to the problem of evaluation in Houston, and although many attempts were made to develop simultaneously a data processing system and an evaluation system, relatively little efforts have been made on the whole towards programme evaluation. It has not been possible so far to develop and set up a system of evaluation comparable to the data processing system.

b) Evaluation of the pilot programme

The development of an evaluation system had not been expressly included in the aims of the pilot project². The project report on the pilot phase³ makes no mention of a systematic evaluation of the pilot programme⁴. However, the report itself proves that efforts were made to achieve a summative evaluation at the end of the pilot project. This concerns the changes brought about in the participants and the persons concerned⁵, as well as the changes in the programme⁶ and the organizational structures⁷.

Formal empirical methods of investigation were used in three areas in the pilot phase: in developing and testing the

¹ See 4.5.5.

² See 3.3(b).

³ Houston/Jones/Hovsam, 1973.

⁴ Apart from the evaluation of single modules.

⁵ E.g. the statement that it was not possible to win the interest of the academic disciplines; see section 2 of the project report.

⁶ E.g. the sequencing of the competency to be acquired according to the Fuller model; section 4 and 5.

⁷ E.g. the setting up of the Houston Teacher Center (HTC); section 3.

"modules"¹, in registering the students' responses to the programme and in assessing the nature and extent of the individualization² achieved through the programme.

For registering the students' reactions³ a special questionnaire was worked out. The students were questioned on counselling, the modules, the teaching personnel, school experiences, feedback, participation in the programme and attitudes towards the teaching profession.

The students were altogether satisfied with the counselling and with counsellors themselves. The various module clusters received different assessments. On average, it is the modules which, according to the Fuller model, seek to provide the student with experiences that boost his/her feeling of adequacy as a person and as a teacher and those which are meant to acquaint him/her with general teaching strategies and teaching theories⁴ which received the best rating. It is with the university supervisors that the students expressed the least satisfaction⁵. But the assessment was on the whole good.

The students were also satisfied with their field experiences. The rating was especially good for the criterium "helped me to achieve competency in recognizing and responding to student needs"⁶. A very good rating was also given to the different modes of feedbacks used in the programme. The questionnaire

1 See 4.5.3.

2 See 4.5.5.

3 See Houston/Jones/Howsam, 1973, section 8. - The questionnaire was elaborated at the College itself under the responsibility of Sherry A. Borgers, an expert on student counselling. It consists almost exclusively of questions to which standardized answers are given on a 4 point assessment scale. The students are for instance requested to assess the value and significance of the "module"-package offered by the programme on a 4 point scale. Only the last question is of a different type insofar as the students are requested "to comment about their most and least beneficial experiences and to make suggestions to improve the programme (Houston/Jones/Howsam, 1973, p. 303).

4 See 4.5.3. and the 7 "module-clusters" mentioned there.

5 A difference was made between "co-operating teachers", "counselors", "university professors or graduate students" and "University of Houston supervisory personnel"; see Houston/Jones/Howsam, 1973, p.286.

6 See Houston/Jones/Howsam, 1973, p. 294.

distinguishes between three kinds of feedback: Personal Assessment Feedback¹, School Feedback² and Video Tape Feedback³. On average, the students preferred the video tape feedback and the personal assessment feedback to the school feedback. The students assessed their chances to participate in the programme decisions as very scarce. It is above all their suggestions and criticisms that are, if at all, taken account of⁴. It is also very informative to see how the students judge their own competencies at the end of the programme. They have achieved their greatest competency, they feel, in questions related to the subject matter and classroom management⁵.

Furthermore, the questionnaire also provided the students with opportunities to express their opinion frankly. The school experiences were stressed as very useful, although the lack of directives was criticized. Suggestions for improvement were especially made for the programme organization, counselling (especially in the schools) and communication with the school personnel⁶.

Obviously, the questionnaire was exclusively designed to collect the students' subjective assessments. The project task force did not try to interpret the results of the survey. Probably this would not be possible on the basis of the questionnaire alone. All in all, it can be said that the typical features of the pilot programme (the counselling system, the use of "modules") met with the students' approval. An evaluation of the progress really made by the students, as compared to other programmes, for instance, not having been contemplated, it is not possible to say anything about the quality of the programme as measured by efficiency criteria.

1 See 3.3(b) and 4.5.5.

2 What is meant is the feedback given by the College supervisors on the basis of their classroom observations.

3 See 3.3(b).

4 Houston/Jones/Howsam, 1973, p. 301.

5 Houston/Jones/Howsam, 1973, p. 302.

6 Houston/Jones/Howsam, 1973, pp. 303/4.

c) Tentative evaluation of the whole programme

As an agreement was reached at the College in 1975 on the instructional system characteristics, the regenerativity claim was included in the 12 programme characteristics¹. The explicit claim that the instructional system should be "regenerative" was however tantamount to demanding that a workable evaluation system should be set up². This decision had been preceded by a thoroughgoing discussion of the evaluation problems in CBTE programmes. A programme description of PTPP³ written by Shore at the end of 1974 mentions two complementary initiatives that should contribute to assessing the evaluation needs of the whole programme once it is extended to all parts of teacher education at the College. First, the working out of a series of basic papers on the problem area "Programme evaluation/competency description" was suggested at the local and national levels⁴. Second, the development of an information management system was initiated⁵ which sought to pair competencies and learning experiences into units of analysis. To judge by the report, it was still a very long way to go at the end of 1974 towards using the analysis of such units to evaluative ends.

1 See 4.5.1.

2 See the above explanation of "regenerative".

3 Jay H. Shores, 1974.

4 A national conference titled "Competency Assessment, Research, and Evaluation" took place in Houston from March 12 until March 15, 1974, with the participation of top experts on teacher training research (D. Berliner, G.E. Hall., B.J. Joyce, D. Krathwohl, D.M. Medley and D. Soar), on research on teaching (N. Flanders and N.L. Gage), on evaluation theory (M. Scriven) and on competency-based teacher education (F.J. McDonald and H.D. Schalock). In his introductory speech F.J. McDonald stated the five central problems of the conference: "1) what is teaching competency; 2) what are the most effective ways of educating for it; 3) are competency-based programs producing effective teachers; 4) what are the influences of the social context on teaching competency; 5) what are the public policy issues relevant to competency-based education?" (McDonald, 1974, p. 21).

The topics dealt with in the three "local" basic papers were also general in character and only indirectly related to the Houston programme (B. Thompson 1974a and 1974b) as well as M. Daigle/N. Molina 1974). In all three cases, the papers were from advanced students with predominantly theoretical interests in CBTE.

5 The factual development of such an information management system in Houston is described in 4.5.5.

Apparently, this project has not been carried out further. The only attempt at a global evaluation of the programme by means of an instrument of investigation previously worked out after implementation has started was the use of the catalogue of criteria developed by J. Bruce Burke et al. for assessing the degree of implementation of the CBTE concept¹. This instrument was used in May 1974²; unfortunately, the results have not been published anywhere so far as I know. The short report³ of which I came to know illustrates the use of the 24 criteria included in the catalogue of criteria by means of 2 examples⁴.

The kind of difficulties met in connection with the programme evaluation emerges clearly from another report produced at nearly the same time by W. Robert Houston and Howard L. Jones⁵, in which the authors conceded that competency assessment remained a knotty problem in PTPP. "The assessment problem is one of the knottiest puzzles faced by anyone attempting to assess human behavior, and particularly as assessment relates to the complex intellectual tasks and skills and attitudes of teaching"⁶.

Houston and Jones give the following explanation of the difficulties met when trying to assess competencies:

- (1) it is not known whether the competencies aimed at by the programme are really those which a teacher should possess;

1 J. Bruce Burke et al., its purpose is "... to help determine the extent to which ... (a) program is competency based." (p. 3).

2 Burke et al., p. 3.

3 Burke et al., pp. 54-57.

4 "1.0 Competency statements are specified and revised based upon an analysis of job definition and theoretical formulation of professional responsibilities." and "2.0 Instructional specifications are reviewed and revised based on learner feedback data." - The use of both criteria led to discovering shortcomings in the programme which were attributed to the stage of development then attained. The use of the second criterion especially led to the statement that "Although a number of feedback opportunities were identified, there does not seem to be a system of feedback operating at least in a formalized procedure." (Burke et al., p.57).

5 Houston/Jones, 1974.

6 Houston/Jones, 1974, p. 23.

- (2) the critical point up to which the development of the competencies should be further pursued and from which an additional improvement of the competencies has no significant effect on teaching effectiveness is unknown;
- (3) the methods and instruments for competency assessment are themselves still poorly developed¹.

On the other hand, no competency based programme can do without assessing the teacher student's competencies, even if a global programme evaluation is not insisted upon. That is why the Proficiency Analysis Rating-Instrument was already developed in Houston in the pilot project². It was revised several times since³. The development and the several revisions were done in close co-operation with teachers from the Houston school districts. The instrument was conceived⁴ rather to provide the "supervisors" with a check-list than as a formal measuring instrument. It is only designed to provide points of view or clues for a global evaluation of the students' teaching competencies⁵.

There has been, lately, an external evaluation of the programme, at least of one aspect of its development and implementation, i.e. the individual commitment of the teachers in the implementation of modularized instruction. It was conducted by G.E. Hall and his team at the Research and Development Center for Teacher Education of the University of Texas in Austin.

G.E. Hall, who had stood in close contact with the College of Education of the University of Houston during the pilot phase, developed an interpretation model and the related

1 Houston/Jones, 1974, pp. 23/24.

2 See 3.3(b) and Appendix 5.

3 See 4.5.5; in all cases the motive was a change in the list of competencies. For the latest version of the instrument, see Jones/Houston et al. 1975, Appendix A (Elementary Form) and Appendix B (Secondary Form).

4 See 3.3(b) and 4.5.5.

5 Each use of the instrument was simultaneously meant as a check of the instrument itself, see directions for its use in the classroom by the Director of Field Experiences, in: Houston, 1974, pp.34/35.

instruments for investigating empirically innovation processes in teacher training institutions, which he applied and validated among others at 12 colleges with recently introduced modularized instruction, and also in Houston: the Concerns-Based Adaption Model (CBAM)¹.

"A key assumption of the CBAM is that innovation adoption is a process and not an event. Each of us, when confronted with use of an innovation, does not automatically and instantaneously become a mature, sophisticated and confident user of the innovation. Instead, the change entails developmental growth in concerns about the innovation and in skill in using the innovation. The CBAM describes these steps as Stages of Concern About the Innovation and Levels of Use of the Innovation." (G.E. Hall, 1975, p. 3)

"It was hypothesized that as individuals first become aware of and consider using an innovation, they have much more intense self concerns. Their questions include 'How much of my time will this take?' 'I need to know more about what kinds of materials will be required if I am going to use this', 'What does my principal (department chairperson) think of my using this innovation, and how will it affect my salary and promotion?'

As use of the innovation begins, the user has more task concerns. Expressions such as 'I'm spending all my time in planning', 'Decision making seems to take forever', 'I still have to do my planning outside of team meetings', 'Getting all of the preassessment and postassessment graded is consuming

¹ For a short but very informative overview see G.E. Hall, 1976 - An important part of the related empirical instruments, the Levels of Use (LoU) Chart, is presented in Hall et al., 1975. An outline of the theoretical background is also given there. A detailed presentation of the CBAM model is given in G.E. Hall 1974a, the LoU Chart in S.F. Loucks/B.W. Newlove/G.E. Hall 1976, a 260 page handbook for researchers interested in the use of this instrument. - G.E. Hall and his researchers focus their investigations on the individuals participating in the innovation. Their approach has been strongly influenced by Francis Fuller and her 'concerns model' (see 2.2 and the bibliographic references there).

all of my time', and 'I'm having no time for other kinds of activities', are heard.

After many of these task-oriented issues are resolved, the innovation users may proceed to more intense impact concerns. These are exhibited through such expressions as: 'I am wondering how I can refine my use of this innovation in order to get more student learning', 'I would like to work with others in using this innovation because I think we can get more accomplished this way', 'I am wondering if there are other innovations or ideas that would help in my use of this innovation and make it even more effective in terms of student outcomes'. In total, seven Stages of Concern were hypothesized to be a part of an individual's affective field in relation to an innovation." (G.E. Hall, 1975, p. 5/6)¹.

Hall and his collaborators consider CBAM as a diagnostic instrument for measuring more accurately the extent to which an innovation has been accepted by the individuals involved and for providing the decision making basis for the innovation process. The outcomes of his investigations show for the Houston College of Education, as compared to other colleges, that the "most interesting result of our study on the use of 'modules' is that there have been no shifts towards 'impact concerns' in some institutions, although the modules have been used for years there. The situation is very different in Houston: When a new teacher who has never worked with 'modules' is engaged, a shift towards 'impact-concerns' can soon be observed in his/her 'concern'-profiles ... The unusual swiftness of such a shift is a characteristic of the Houston institution." (Interview G.E. Hall, p. 7).

Someone who knows PTPP very well judges the program positively as far as the teachers' commitment and actual implementation are concerned, as compared to other programmes. "The Houston

¹ For further information see note 1.

programme has reached a stage of development that leaves behind any other programme in the country. There are equally developed programmes with other advantages, but none of them has reached the same commitment on the part of teachers in a CBTE programme as in Houston. From the places I know, only the Western Kentucky University may be compared to Houston. Although I am convinced that there are excellent programme elsewhere, about which I do not know anything, I am sure that they are all behind Houston in this respect. The participation of all teachers requires new techniques, a new body of knowledge. ... huge obstacles had to be overcome; each professor feels he is a king in his realm and is primarily interested in his own career. A look around shows that Houston is a phantastic exception to this rule. True, the Houston programme is no longer a pure CBTE programme as it used to be - all teachers have gone through this process by now - but teaching here is more competency-based than ever before." (Interview 5, p. 9).

9
d) Steps towards developing an evaluation system

Once the Memorandum of the Program Development Director had initiated a new phase of programme development and programme implementation, attention turned again to the evaluation problem at the College. "In 1975 the point had been reached where development could be followed by evaluation and research in some areas. Therefore the Associate Dean For Undergraduate Studies set up the Research Task Force Committee including, besides the Associate Dean for Undergraduate Studies, Mick Hollis, and the Director of PTPP, Dell Felder, and members of the teaching staff interested in research: Bod Randall, Will Weber, Bob Houston, Howard Jones and Jim Cooper. The chairman is the Associate Dean for Undergraduate Studies Mick Hollis. It was not before 1976 that the Committee's duties were accurately defined."¹

¹ Interview 16, p.2.

The newly set up Research Task Force Committee (RTFC) first concentrated on an analysis of the data needs of the persons and groups participating in the programme. What questions did the different programme components, the program units co-ordinators, the students, the instructors, the Director of PTPP and the Director of Field Services expect the programme to answer? What are the questions from the point of view of the PTPP student assessment system, of the Teacher Center, of the Dean's Office, of the Certification Analyst, of the Undergraduate Studies Committee, of the College teachers. What data are needed for answering these questions? How can they be obtained and made available? Who should be made responsible for providing and interpreting the data in the various cases?¹

A short time later the two goals of the "Program Effectiveness Data System" to be developed were set as follows²:

- "1. To provide means by which student and faculty reactions can be systematically gathered for use in revising instruction and instructional materials.
2. To provide means by which data can be collected to give direction for program revision and improvement."

And the following was stated as the most urgent evaluation plans³:

- "1. Descriptions of the program with regard to each of the twelve specified program operational characteristics (for example, the competency based approach; personalization; modularization; and the campus-based, field-oriented approach).
 - a. Managers' observations and perceptions.
 - b. Instructors' observations and perceptions.
 - c. Students' observations and perceptions.
2. Evaluation of the instructional modules.
 - a. Student perceptions of the relevance of the instructional objectives.

1 See expert paper of RTFC dated May 20, 1976.

2 RTFC expert paper dated September 11, 1976, p. 16.

3 RTFC expert paper dated September 11, 1976, p. 17.

- b. Student perceptions of the effectiveness and efficiency of the learning activities.
- c. Student perceptions of the fairness and objectivity of the assessment procedures.
- d. Student attitudes concerning the module they experienced.
3. Evaluation of the instructional system
 - a. Formative evaluation.
 - b. Summative evaluation.
4. Evaluation of the assessment system including a determination of cost factors.
5. Evaluation of program graduates; follow-up studies."

However, none of these plans has been totally turned into practice so far: "Nothing is really legitimated."¹

As a matter of fact, at present, the initiative for programme evaluation is, if at all, left to the individual instructors, as is evidenced by several interviews: "We have so far no formative system of evaluation embracing the whole programme for assessing what happens to the students and for creating a feedback with the instructional system."² - "At present, there is a feedback, if at all, via personal success information; product data, i.e. data on changes in student behavior have not been collected so far."³ - "I try in different ways to carry out routine checks of my students' attitudinal changes, to keep in touch with former students and to use feedback cards. However, my interest is primarily focused on the development-psychological aspect of the education programme; moreover, my sample is very small."⁴

1 Statement by a top member of PTPP on the stage of development reached by the evaluation system at the RTFC meeting on September 27, 1976, which the writer attended.

2 Interview 4, p. 3.

3 Interview 9a, p. 5.

4 Interview 14, p. 5. - A similar picture results from the answers to question IV.4 and 5 of questionnaires 1-16. None of the interviewers can give a positive answer to question IV.5 about the global evaluation of the programme. Most of them (12 out of 16) just skipped this question or answered: "I don't know". By contrast, a large number of interviewers say that they are satisfied with the evaluation of their teaching activities (question IV.4; 8 interviewers out of 10 answered positively, 2 give clearly negative answers).

A series of reasons are put forward for justifying that an evaluation system is lacking:

- (1) the need to set priorities: "The programme itself had to be developed first."¹
- (2) the programme instability: "It has been a consequence of the standing compromising process that the programme has kept changing and that we have had no constant learning/teaching situation. This is another reason why there has been no evaluation so far."²
- (3) Conceptual difficulties: "new designs would be necessary."³
- (4) Lack of a basis of comparison with traditional programmes run in parallel: "As a consequence of the obligation to seek approval of the programme, only diachronic comparisons are possible at the College. We would have to compare the effectiveness of today's graduates with that of students who left training centers four years ago. But this is very difficult."⁴
- (5) Local administrative difficulties: "Empirical studies in schools may not be carried out without the school administrative approval. And in the conservative Houston, it is almost impossible to get such an approval. We would then have to look for another school district for carrying out 'follow-up studies'."⁵

There are heavily controversial views at the College on how teacher education programmes could and should be evaluated. The

1 Interview 16, p. 2. - See also answers to IV.1 of questionnaires 1, 10 and 14. In questionnaire 10 we read e.g.: "It's necessary to design and operate the program before you have anything to assess."

2 Interview 5, p. 13; see also interview 9a, p. 4 and 13, p. 4.

3 Interview 9a, p. 5; see also interview 17, p. 1/2; 7, p. 3 and 3, p. 4/5. See also answer to IV.1 of questionnaire 2.

4 Interview 9a, p. 3. See also interview 3, p. 5; another argument mentioned there is that nothing is known of the whereabouts of the former college graduates, what makes a diachronic comparison even more difficult.

5 Interview 17, p. 1.

most radical opinion is that programme evaluation should prove CBTE's superiority. "It is not proved at all that CBTE is educating better teachers. True, one could think that, theoretically, nothing could be lost by specifying competencies; but no one has so far checked the validity of the generics."¹

On the contrary, a prominent member of the College and of RFTC doubts that such global comparisons are meaningful and can be implemented: "Investigations of the kind 'programme X vs. programme ' are, in my opinion, bad research, and can only lead to virulent quarrels without any winning party. Competency-based programmes should never be compared directly to other programmes in a general manner. Individual aspects can be investigated, e.g. the effectiveness of instructors, but it is basically impossible to decide empirically on programmatic issues."²

The same college member is however convinced of the quality of his own programme and states the satisfaction among students and instructors as a significant indicator.³ "It is useless to keep harping, as most CBTE opponents do, on the fact that significant differences between CBTE programmes and other programmes cannot be evidenced. We know that CBTE is better than anything we had before, and we take the responsibility for it. By the way, it won't be possible to prove the contrary either ... There is no alternative to formative self-evaluation."⁴

If this opinion seems to assert itself gradually at the College, it is not clear at all at the moment how such a formative self-evaluation would look like in the case of DTPP. There seem to be two positions: some would like to orientate the whole evaluation to the "generics", the other would prefer a mixed strategy instead of an exclusively goal-oriented evaluation. The former group claims: (1) that the acquisition of the generics

1 Interview 17, pp.1/2; see also interview 3, pp. 4/5.

2 Interview 9a, p. 4.

3 Interview 9a, p. 5.

4 Interview 9b, p. 2.

by the students should be taken as a standard for assessing the success of the programme and (2) a check on whether possessing the "generics" makes a difference or not¹. The latter's concern is : "It would be very important to know whether and how the programmatically required characteristics are reflected in the programme and its subsystems from the operational point of view, and whether they make a difference in the quality of the final results. It would also be very important to know to what extent the students actually acquire the requested competencies, and whether and how these competencies influence their behaviour after 3 years of professional experience etc. It would further be important to know what progress the student makes as he moves on through the programme, and what discrepancies appear between his/her needs, the programme's requirements and the actual results, and so on."²

By contrast, all seem to agree that the use of student achievement data (consequence data) is out of the question at present as a last indicator of student success and programme quality. My guess is that we shall rely more on the measured assessment of the students' competencies (performance objectives). There are two arguments against using 'consequence data': first, the teacher's success is highly dependent on context variables for which neither he nor his educators can be held responsible; second, the general relationships between the variables which can be influenced by the education programme and the teacher's success in his future career remain extremely unclear, so that only bits and pieces could be treated without it being possible to hope to be able to draw conclusions for the whole programme."³

In RTFC a consensus seems to be emerging now on⁴

- (1) evaluating to what extent the programme characteristics have been really implemented, and

1 Interview 7, p. 5.

2 Interview 4, p. 4.

3 Interview 4, p. 4.

4 See protocol of the meeting on September 20, 1976.

- (2) measuring "student progress" at 2 times: at the end of the first training phase and during the internship.

After many years almost exclusively dedicated to development there is a strong tendency to turn again to evaluation and research. There are several reasons for this. The first one are the signs of tiredness which can be observed among the programme instructors. They are tired of the frequent revisions of the courses and "modulec" and would like to have time again for their own research¹. Another reason is the wish to improve the financial resources with funds from third sources. "If we concentrate exclusively on the undergraduate programme, research is neglected, and we hardly have opportunities to find additional funds. Therefore we have decided - whether this is right or wrong - to move the emphasis from undergraduate to graduate education."²

Finally, it is hoped that this will boost the own professional school status, thereby reinforcing the professional character of the teaching job. It is in this sense that a statement of intent by the Undergraduate Studies Committee and the Program Development and Implementation Council (PDIC) should be interpreted: "As a Professional School, the College of Education will increase its efforts in research activities directed towards improved processes for preparation of educational personnel. The preparation of pre-service teachers is an important dimension of this effort. The undergraduate Professional Teacher Preparation Program is increasingly expected to become a resource for research activities, providing opportunity for investigation of both subjects (students and faculty) as well as the instructional system and its program components."³

1 Interview 17, pp. 1/2.

2 Interview 5, p. 15; see also interview 16, p. 2.

3 Policy and Procedures regarding Research Activities in the Professional Teacher Co-operation Program, approved by the Undergraduate Studies Committee: April 23, 1975 and approved by the PDIC: August 7, 1975, p. 1.

Summary:

- (1) Programme Evaluation has so far been restricted to the mainly informal (student personal feedback etc.) - internal formative evaluation of parts of the programme, e.g. of individual "modules". This also applies, with some qualifications, to the pilot programme.
- (2) Preparatory work especially related to the data aspect of the evaluation process has been undertaken for setting up an evaluation system. Although many instructors are satisfied with present evaluation procedures, less efforts seem to be dedicated to systematizing and using for the whole programme what evaluation is already being done.
- (3) It is surprising that, in spite of top CBTE theoreticians¹ saying that competency-based programmes were well suited for empirical research, so little progress has been made so far in the evaluation of the whole programme. It should be stressed in this context that there is no consensus at the College over what role the competency model should play in programme evaluation².
- (4) All in all, the internal consensus finding processes and their adequate organization seem to have more deeply influenced the progress of development and implementation in the programme than the systematic evaluation of the overall programme, or of parts of it.
- (5) People seem to realize at the College that the neglect of research to the benefit of development and implementation must be corrected if the College wants to meet its professional school vocation. Seen in this context, scientific programme evaluation gains another dimension as a means for improving the quality of the programme and for enlarging the body of professional wisdom in general.

¹ See especially W.D. Schalock et al., 1975.

² Others see the competency model as "very important" for programme evaluation; see answers to question II.7 in questionnaires 1-16. Ten of the interviewees rated the competency model as "very important" for this purpose, 2 as "important", 2 as "less important", and only 1 out of 16 interviewees as "not important".

5. SUMMARY

The following section will sum up the outcome of the case study. We will not so much seek to provide a second, more condensed, account of the numerous results, but rather to work out some central problems of a reform of teacher education based on competency-oriented programs as they can be identified in the development of the Professional Teacher Preparation Program of the College of Education of the Houston University¹.

5.1. The Pilot program as a follow-up program to the CETEMs

The starting point of the concrete work on CBTE programs was the 1968 Model Elementary Teacher Development Program of the U.S. Office of Education. The 10 model programs (CETEMs) developed in this framework represent the first comprehensive conceptualization of overall programs on CBTE basis. The development of the Professional Teacher Preparation Programs of the College of Education of the University of Houston (PTPP) was started two years later (1970) with the promotion of the pilot program at the national level². It was thus possible to draw on the vast preparatory work done by the CETEMs at the content level. As the College of Education managed to win the participation of leading CBTE experts who had played a decisive role in the development of the CETEMs, it has been possible to a certain extent to integrate the experience and the personal competence gained in the development of the CETEMs³.

1 The identification of these problems is done primarily by means of an internal examination of the findings of the case study taking into consideration the concrete situation in Houston. The situation as seen in larger contexts - in the American CBTE movement, in the national and international developments in the field of teacher education - will be considered elsewhere.

2 Since 1966/67 there were numerous activities in Houston which can be considered as preparatory work for a CBTE program and which were considered in the pilot program. However, redesign of the whole program was not started before 1970.

3 Cf. 3.2(a).

In this sense, the pilot program can be viewed as a CBTE program of the "second generation".

But unlike the CETEMs, the pilot program had not been conceived as a pure program model; it was tailored from the beginning for being tested and implemented under the concrete conditions prevailing in Houston. It is less a model worked out at a round table than an experimental program⁴. The developers however had intended to restructure the teacher education program of the College so that it could serve as a model for the whole nation⁵.

In developing the CETEMs the teams could work out certain concepts without having to pay heed to the constraints of immediate implementation. It was therefore possible to engineer extreme solutions to certain planning problems⁶. Some CETEMs largely deviate from the principles of traditional programs or place a strongly one-sided emphasis on certain aspects of the problems. By contrast, the pilot program of the College of Education of the University of Houston was manifestly bent on avoiding extreme solutions. The development of the model itself was not based on a stringently observed principle⁷. The teacher's role model of the pilot program⁸ is relatively simple and has no marked em-

4 That is why the amount of work done for justifying individual decisions and the amount of the details concerning certain views are not comparable to those in the CETEMs.

5 This, although at the beginning, the College had not gone for a CBTE program (see p.3.3(a)) and its conception included goals also in the pilotphase, which reached farther than the development of a CBTE program in the strictest sense (see 3.3(b)).

6 Cf. chap. II.2. of my dissertation.

7 Cf. the principle of the isolated vertical operationalization of certain teachers' subcompetencies adopted in Georgia, the modular principle of Toledo, or the principle of the greatest possible pluralism in Syracuse.

8 Cf. 3.3(b2).

phasis or one-sidedness^{8a}. It does not refer to expected changes in the school system which were to be major as compared to the actual situation during the pilot phase⁹. The grouping of competencies into program areas or program components came close enough to the role model itself for the latter not to lose its guiding power in the development of individual competencies within the areas on the one hand; on the other hand, it sufficiently adhered to the classical disciplines involved in teacher education and the departmental structure of the College for the development of the individual competencies not to require a comprehensive reshuffle of the organization and of the cooperative structures of the College¹⁰.

The competencies identified in the pilot program display an average level of operationalization¹¹: they neither follow a strictly behavioristic pattern, which would be incompatible with the personalization ambitions of the program, nor remain too general to be usable for evaluating and directing the students learning behavior¹². The modules correspondingly take a middle position between excessive complexity and excessive fragmentation of the content of learning¹³.

8a Cf. the emphasis on the innovative capacity of the teacher in the Columbia model, or the significance of individualized teaching for the teacher model in Pittsburgh.

9 Cf. the "futuristic" assessments of perspectives of change in schools contained in the Florida model. The orientation of the pilot program to crossover problems was rather related to changes which have already taken place in the Texas school system, but which have not been taken account of in teacher education so far. The assessments of expected changes in the field of the personalization of teaching contained in the pilot program can be said to be rather cautious.

10 Cf. the grouping of competencies exclusively following the teacher model in Columbia, the classical disciplines in Georgia.

11 Cf. the extent of the operationalization of competencies in the Columbia model on the one hand, in the model of Michigan State on the other.

12 Cf. 3.3 (b2) and Appendix 5 (original version of the PAR instrument containing the list of competencies of the pilot program.

13 Cf. number and extent of the modules in the Michigan and Pittsburgh models.

What is novel and excellent, from the standpoint of organization, is the pilot program's link with school practice¹⁴; however, the incorporation of the introduction to teaching practice follows relatively conventional patterns¹⁵.

From its inception the pilot program was conceived for the professional components only; with this modest solution the problem of how to include the academic disciplines in a competency-based teacher education program had been put aside¹⁶.

Considered in the above mentioned problem dimensions, the pilot program seems to be relatively balanced as far as the treatment of some conceptional and planning problems linked to the introduction of CBTE (concept of competency, grouping of competencies) is concerned and comparatively conservative in the orientation of the program content (role model, overall structure of the program, inclusion of the academic disciplines). As the introduction of a CBTE program already requires in itself vast innovative efforts, this may be viewed as the expression of a sensible allowance made for local surrounding factors and of a certain circumspection in the pursuit of overly ambitious objectives¹⁷.

The most ambitious goals concern the personalization of the program. The highly differentiated and sophisticated system of counselling and guidance and the sequencing of the overall program along the lines of the Fuller Model are special features

14 As compared to the CETEMs, the Houston pilot program has reached very good solutions conceptionally and practically - due to favourable conditions of local educational policy - to the problem of linking theory and practice; see 3.3(b1) and 4.1.3.

15 Thus, as with the "internship" of traditional programs, it is in the last phase of the pilot program that the contacts with the schools are most intensive; see Appendix 4, No.23.

16 The programs of Michigan and Massachussets show how difficult it is to treat this problem even at the level of program models.

17 "The program ... is different but not radical." (Shores, 1974, p.2).

of the pilot program as compared to other CBTE programs¹⁸. The marked personalization claim of the program made it possible to avoid a behavioristic one-sidedness of the CBTE concept in the pilot program which made for its being well-balanced^{18a}. Yet the level reached here has only been attainable under the easily visible and quantitatively discernible conditions of the pilot phase; clear ideas about how to cope with the management problems raised by individualization and personalization in a broader program were not available.

Nearly all CETEMs set great store by the elaboration of management systems for the development and implementation of CBTE programs. The developers of the program model were aware of the fact that the system character of the programs could not be realized solely through common ideas about the objectives to be attained, but also required new forms of cooperation, of information flow and decision making¹⁹. The pilot program had foregone working out such a management system. Evidently too little thought had been given or could have been given as a consequence of the hasty ordering, - to the implementation of the pilot program at the whole College. Here it appears clearly that the pilot program was more an experimental program than a model intended to be extended to the institution as a whole.

5.2. Surrounding factors of the implementation

When trying to identify key problems of the implementation of CBTE-based teacher education programs through this case study we should bear in mind that a series of local conditions, some constraining, some favorable, have strongly influenced the development and implementation of the program in Houston. By overlooking the significance of these local

18 The program most comparable to this one is probably the program model of Columbia.

18a Cf. 3.3 (b2).

19 The use of systemic procedures implied an emphasis on processes as against structures; see LeBaron 1969, p.3.

determinants we would run the risk of unduly generalizing the insights gained from example, or of evaluating the achievements only by external standards and failing to sufficiently consider the concrete problems the innovators had faced in Houston.

First, the Houston program represents one of the first fully realized CBTE projects. The shortcomings and lack of maturity of the concept itself, resulting from it having been tested on a small scale only, necessarily appear quite strongly in the first implementation attempts. The research base for identifying valid teaching competencies, for instance, has been very weak up to now, which has been recurrently pointed out by the advocates and opponents of the CBTE concept and by research on teaching experts.

Besides, more than any traditional reform, as vast a reform as the introduction of CBTE as a basis for the whole teacher education calls for legitimization on the part of the individuals and groups involved²⁰. Therefore forerunners advocating reform ideas must reckon with strong internal and external resistance when trying to push their way through.

However good the global concept of such complex systems as training systems may be in model, it is not possible without sufficient previous practical experience to foresee all contingencies that may eventuate during the innovation process and to consider them all in the planning²¹. Where such experience is lacking, planning can at best be based on qualitative evaluations and certain strategic principles gained from innovation processes with similar structures.

The introduction of CBTE in Houston could not draw on pre-

20 This is always pointed out by CBTE proponents when they are confronted with challenge that the quality of CBTE programs would have to be proved first; see Performance-Based Teacher Education: A 1975 Commentary, 1975, p. 9.

21 Even if the main factors of the process are identified, their exact significance cannot be totally predicted since the information base for the planning of a process involving so many different individuals, subsystems and problem areas, can never be exhaustive.

vious experience in the introduction of whole CBTE programs at other institutions of higher education: starting from certain general a priori reflections and situation assessments, the process had to be initiated even though nearly all procedural principles were hypothetical and the consequences of their implementation determined the steps to be taken next.

In Houston some important factors affecting the innovation process in a decisive way were out of the College of Education's control and could not be modified. These include certain institutional arrangements such as the course system and the credit system, which were not in the responsibility of the College of Education but of the directors of the University of Houston.

Limiting the pilot program from the start to the professional components was a realistic decision considering the vast problems which would have arisen at the level of concept and university policy had one attempted to include the academic disciplines. But another consequence of this decision was on the other hand that the College of Education as a subsystem of the University of Houston remained relatively isolated and could not influence factors, beyond the scope of the College.

The "ordering" of CBTE by the Texas Board of Education via the standards for teacher education programs in Texas affected rather negatively the implementation conditions of the innovation at that time. The controversy over the CBTE concept grew more violent, the hostility of the academic disciplines and isolation within the University of Houston worsened, and the opposition of these college members who were hostile to CBTE gathered momentum. Because of the time limit set by the standards and of financial difficulties the implementation had to be ordered at a time which in view of the further development must be considered as premature. In its innovation concept the CBTE team of the College set great store by a balanced blend of personality-oriented and institution-oriented approaches; the controversy over "mandating" in-

creased the difficulty to link these two approaches and rendered necessary a solution which is seen retrospectively as an administrative mandating by a section of the College²².

However, the State Board of Education standards had insofar positive effects as they improved the educational policy conditions for a better mediation between theory and practice and provided state support to the approaches developed in Houston for cooperation with the schools.

5.3. Linking theory and practice

A fruitful mediation between theory and practice in competency-based programs requires an acceptable solution to the organizational problems of cooperation between higher education and schools as well as the determination of substantive topics of cooperation that take into account the interests of all parties concerned. On the one hand, the influence of practitioners on the program has to be secured so that their professional competency can be used; on the other, this influence must be shaped so that the system character of the program remains intact.

The intensive informal cooperation links with representatives of schools set up in the pilot phase²³ could be consolidated

22 Cf. 4.2., but also the answers to questions II.3. and II.4. of questionnaires 1-16 (faculty members). To question II.4. questionnaire 10 says for instance: "Conflict emerged between the administration and those faculty members who felt that CBTE was being pushed on them."

Remark: The questionnaires were given numbers in order to make the quoting easier. The questionnaires of the faculty members were numbered 1-16, those of the cooperating teachers 17-21, those of the elementary school teacher students 22-25, those of the secondary school teacher students 26-35. Where reference is made in the following to questionnaire 13, it is plainly to a questionnaire of the faculty members; see also Appendix 1.

For the questions of the questionnaires (II.4. means question 4 of the second category of questions), see Appendices 2 and 3, which contain the questionnaire forms for the educators, the students and former students of PTTP.

23 Cf. 3.3 (b) and 4.1.3.

further during the implementation²⁴. With the extension to the whole College, the relations to practitioners had to be more strongly formalized²⁵ in order to ensure the continuity of cooperation and the influence of practitioners on the goals, the forms of instruction and the modes of evaluation. When the Houston Area Teacher Center²⁶ was established, the cooperation between the university and the schools could be stabilized in a way which all parties involved deem very fruitful²⁷.

The mediation between the schools and the University achieved in Houston, between the theoretical and the professional components^{27a} of education, is seen as a model in the comprehensive discussion taking place in the USA over the professionalization of the teaching profession²⁸. The co-ordination of theory and practice via competency models, as was achieved in CBTE, seems to be very suitable for eliminating barriers between the schools and the university and for securing the influence of the teaching profession on the program.

24 Cf. 4.1.3.

25 Cf. the "proto-cooperatives" in the Syracuse model, which raises the informal character of the relationships between theory and practice to the level of a principle.

26 Prepared and supported by the Texas Standards, see 4.1.1(b).

27 Cf. statements by the faculty members and the cooperating teachers, questionnaires III.1. and III.3. (faculty members) and II.6. (cooperating teachers).

27a Cf. 3.3 (b2), (e.g. preparatory work in the field of Mathematics Education).

28 Cf. presentation of an organization model for the relations between the university and the field institutions (schools, municipalities and teacher associations) which largely takes inspiration from the HATEC structure; in Howsam et al., 1976, Appendix A. See also Howsam, 1972.

5.4. Disciplines involved in the teaching profession and the professionalization of teacher education

a) The academic disciplines

The mandating of the new standards for teacher education prescribing CBTE for teacher education in general, including the academic disciplines, unleashed a vehement controversy, which concentrated on a problem basic to a professionalized education: the tensions between the claim to autonomy made by the academic disciplines and the claim to professionalization staked by the teaching profession, between the system character immanent to the subject matter and the relation to professional practice.

The front-line shows this very clearly: on the one side the closed ranks of the representatives of the academic disciplines, opposing the standards; on the other, the teachers associations and, less resolute and in less serried formation, the teaching staff of the College of Education²⁹. Although the CBTE concept also came under criticism for its one-sided behavioristic orientation and for its lack of scientific foundation, the controversy primarily revolved around the threat to academic freedom and to the influence of the academic disciplines on teacher education.

As seen from the standpoint of the academic disciplines, this threat first emanated from the state agencies, which, without having substantially included the academic disciplines in the development of the standards, had suddenly mandated such a profound change of the academic components of teacher education, and therewith threatened the freedom of teaching and the autonomy of the university. Finally, state agencies were viewed as the administrators of the teaching profession, whose members had been given more powers by the standards in and outside the universities.

The conflict between the interest of the academic community

29 Cf. for the following 4.1.2.

in safeguarding its academic freedom and its responsibilities for the content of education on the one hand and the interest of the teaching profession in stronger control over teacher education on the other was articulated at several levels of the dispute:

- at the level of the content and forms of education, between the freedom and the responsibilities of the academic disciplines and their subordination to a broader concept based on professional criteria;
- at the level of the structures of decision making, between the autonomy of the departments and the centralization, necessary in the CBTE concept, of the control powers under the leadership of the profession itself³⁰;
- at the level of the allocation of resources, between the traditional principles of allocation within the university and the preferential treatment given to teacher education by the new standards.

That the conflict became so acute in Houston may be attributable to the fact that the efforts made to include the academic disciplines, which had previously taken no interest in teacher education, in the process of development had met with little success. The discrepancy between the claim made in the standards and the real stage of development achieved here in Houston caused these oppositions to appear very clearly. Parallel to the lifting of the standards, the solution found in Houston consisted in limiting the implementation to the College of Education and in drawing a demarcation line separating it from the academic disciplines for securing mutual non-interference. This solution consisting in having in Houston a separate program development for the College of Education helped ward off conflicts which could not have been coped with at that time; on the other hand, this also had disadvantages which hampered the development of CBTE at

30 The fact that the new standards would not have only increased the influence of the Colleges of Education as against that of the academic disciplines but also given a say to groups outside the university was bound to appear as a serious threat to academic freedom.

the College of Education itself. As a consequence, the weight of the professional components was increased within teacher education as a whole, but at the cost of a nearly total isolation from the academic disciplines³¹ and of submission to the institutional rules of the whole university which, like the course system and the credit system, were, as a matter of fact, in contradiction to the CBTE philosophy.

The problem of whether and how to include the academic disciplines in the CBTE program has not been studied further since. Three different positions are taken up by the college educators today. One segment is of the opinion that a competency-based program cannot be efficient before the academic disciplines have also been included in the process; a second group shares this view, considers however the target as unattainable for reasons of higher learning policy, whereas a third group holds that competency-orientation is not a valid principle for the academic components of teacher education³². The experience gained in Houston nevertheless allows the assumption that the immense university conflicts kindled by a "lofty" solution could only be mastered on the basis of profound conceptional thinking over the relations between the academic disciplines and the teaching profession and of carefully established cooperative contacts³³.

b) The education disciplines

It appeared in the course of the implementation process that the conflict between scientific pluralism and the system cha-

31 Cf. answers to III.7. of questionnaires 1-16. While the majority of the interviewees (10 out of 17) are of the opinion that the status of professional education has been raised in the whole education program as a result of CBTE, a significant influence on other departments and Colleges involved in teacher education is unanimously disputed by those who expressed themselves on this question (6 out of 8).

32 Cf. answers to question III.8. of questionnaires 1-16. This wide range of opinion also prevailed among the cooperating teachers; see corresponding answers to questionnaires 17-21.

33 First attempts to extend CBTE to the academic disciplines have been made at other universities; see W. Caple/G. Markle, 1976.

racter of the subject matter on the one hand and the compulsory character of the structure of content and organization of the education program on the other also existed at the College itself. The education disciplines based in the Foundations of Education Department (FED) had already expressed reserve as to the pilot program and offered the strongest resistance to competency-orientation thereafter³⁴. Teacher education is only one, and not the most important, activity of this department; research and the graduate program carry much weight.

The contradictions between the FED department's claim to autonomy and the need for a conceptional and organizational unification of the program became evident in the following places: Within the department there was a strong opposition to competency-orientation in general and to the compulsory development and use of "modules". Referring to its special educational tasks (transmission of fundamental knowledge in the social sciences and general social skills), the department claimed more academic freedom in the design of its teaching activities. Within the concept of competency, there were no ideas about the relations in which some areas of content in FED's responsibility would have to stand to the role model, to the generics. Whereas in the pilot program the areas of responsibility in which the development work had to be done were still characterized as to the content and related to the role model, a content-oriented description of the areas of responsibilities as mediators between the role model and the system character of a canon of knowledge in the educational sciences was later missing. The FED 361 course remained a traditional, more or less discipline-oriented, introduction to the fundamentals of education and was hardly modified by the CBTE-orientation of the overall program; the conceptional contradictions were too strong for allowing a total integration of this course.

Some of the educators solved the above conflicts by considering their role within PTPP as a service func-

³⁴ Cf. for the following 4.3. and 4.5.3. That this conflict is no isolated case can be read e.g. in R.J. Nash/D.A. Shiman/D.R. Conrad, 1977.

tion and by defining their professional self-image outside this program. Moreover, a relatively great tolerance of deviations from the standards of the 7TPP program has developed and gained acceptance.

c) The methods courses

The methods courses, which by their own claim are strongly characterized by their orientation to the teaching practice and an extensive integration of the knowledge relevant to teaching did not, as a rule, oppose the introduction of CBTE, although the participation in the development of the pilot program and the intensity of the module development after the implementation varied from subject to subject. Mathematics education has even been a pace setter in the movement. Mathematics education is highly suitable for modularization, the responsible university educators hold, because its goals and content can be defined with accuracy, translated relatively easily into meaningful fixed sequences, are less dependent on interactional learning situations, which - as in the social sciences for instance - cannot be fully anticipated, require a more creative use of the learning media, and which are not primarily aimed at achieving cognitive learning goals³⁵.

However the varying involvement and initiative displayed in the program by the different methods courses are enough to suggest that all problems could not be solved by relating the principles of the program to the methods courses. The conceptional deficits of this mediation became apparent as it came to concretizing for each subject the general teaching competencies for the whole college. This has not been forthcoming to date (October 1976).

One can gather from the statements in numerous interviews that there is a series of unclear points concerning the relationships between generics and specifics. It is stressed on the one hand that some of the qualifications

35 Cf. 4.5.2.

formulated in the generics (e.g. lesson planning) can only be taught in relation to certain items of content; on the other hand, there is an introductory course "generic teaching competencies" which is not concretized for the specific subjects. On the one hand, the "generics" are intended to be also compulsory for the methods components; on the other, it is emphasized that the "specifics" should only be compatible with the "generics". At any rate, the modules developed in the methods courses can neither be simply assigned to the "generics" nor do they cover their range of qualifications. Obviously, the idea the methods courses have of their role is only partly compatible with the general qualification model. A general solution to the problem of how general teaching competencies could steer the process of development in the methods courses without impinging on the latter's autonomy does not seem available to date (October 1976). Rather, it looks as if one sought to avoid the conceptional difficulties by having recourse to more eclecticism in the program.

d) The Teacher Education Program Area

The "Teacher Education Program Area" of the Curriculum and Instruction Department (C&I) has been the most important agency operating the program; it is responsible for all general teacher education courses. In view of the great affinity between the education courses and the orientation to general education competencies, it is not surprising that it is in the Teacher Education Program Area that the PBTE concept came up against the least resistance. It is in this area that the more manifest progress has been made in development since the implementation began. As in the other program areas, there are still question marks as to how the goals and the content of the courses should relate to the general competency model.

On the one hand, it is possible to use a role model describing the most general teaching competencies, i.e. those common to

all teachers, (general competencies, generics) as a basis for the teacher education courses, which generally precede the other components of the education program. On the other hand, the role model is intended to steer the whole education program and to describe the competencies which the teacher is to possess on completion of his education (final competencies). The precondition, however, would be that all program components contribute differently, and build up on one another, towards achieving "final competencies", - including general instruction in education.

But the role model itself does not specify whether this is primarily to be conceived as a list of general or of final goals. The solution to this problem adopted in Houston reflects this contradiction on the one hand, the "generics" were assigned as special learning objectives to the Teacher Education Program Area; there they were operationalized and translated into instructional modules; on the other hand, the claim of the "generics" to be valid for the program as a whole was maintained. Nothing was said about how the learning objectives should relate to the competency model in the different parts of the program, i.e. how the process of constructing the competencies should be structured during the whole program.

One can interpret the removal of the "generics" in the Teacher Education Program Area as a retreat: failing to have solved the fundamental conceptional problems of the integration of the different program components, the claim to orient the whole program to the competency model remained unclear and could not be translated into stringent education plans. It would therefore seem logical to try to implement it at least where the claim could be most easily implemented in the education courses.

In that way, this solution represents the last step of a gradual whittling down of the professionalization claim: isolation from the academic disciplines, tolerance of deviations from the module design vis-a-vis the fundamental educational

disciplines, temporizing in face of the development problem in the methods courses, finally, adoption of the competency model by the education courses, which alone claim full responsibility for basic decisions.

The result of this watering down of the claim was the same as with the isolation from the academic disciplines: as the importance of the professional components increased in the whole teacher education program with the limiting of the professionalization claim to the College of Education, the weight of education courses in PTPP grew as the professionalization was concentrated in this area.

+ + +

Teacher education must reckon with the tensions between the autonomy of the scientific disciplines basic to the teaching profession on the one hand and the orientation to the practical activity of the teacher on the other. Traditional teacher education programs usually overcome these tensions by separating to a large extent the academic from the professional education. This state of affairs, which, if carried to the extremes, results in a sheer teaching of theories unrelated to practice, or practical guidelines without theoretical foundation, is considered to be more or less unsatisfactory by all groups involved in teacher education. CBTE represents an attempt to overcome the onesidedness of academic education through a reform of university education and closer contacts between theory and practice. The orientation of the education program to role models and professional competencies is a principle for structuring academic education which is in contradiction to content area orientation, i.e. to the systematic organization of the different disciplines.

Judging by this case study, it is in the field training and in the education courses that the CBTE concept seems to imply the least break with the traditional structures of

of education programs. Competency models as a basis for overall programs having to be initially specific of the subject studied by the prospective teacher, it is to the education courses that they come closest. Therefore, this domain will be given special weight in the implementation of CBTE programs: from the conceptional point of view, it is in the education courses that a competency model can be most easily applied. There the educators will offer the least resistance to the CBTE concept. The education courses are the most likely to play a forerunner role in the innovation process.

In the education courses, the methods courses, the disciplines basic to education (educational sciences, psychology, sociology and so forth) and in the academic sciences, there are contradictions - which become stronger in this order of succession - between the traditional structuring principles and the structuring according to the competency model. It is in the first place due to the fact that the relations between theory and practice, between scientific content and the teacher's activities are viewed differently in the various disciplines basic to the teaching profession. For the teacher, it is in a different manner that academic knowledge and psychological knowledge, for instance, regulate action; the latter is, in turn, integrated differently into this activity than the knowledge of methods principles.

Therefore the orientation to teacher competencies makes more or less exacting demands on the various disciplines as far as change is concerned. In the traditional self-image of the academic disciplines, these demands mean a cut in academic freedom.

In the disciplines basic to teacher education the educators are concerned in a varying measure with teacher education. In the academic disciplines and in the fundamental education disciplines, the majority of the students are not prospective teachers; in the educational sciences there are other

activities than teacher education or graduate programs. The methods and education courses are the only ones to be exclusively centered on teacher education. The adoption of competency-based education programs requires from the educators in the academic and education disciplines that they identify more clearly the function of their knowledge in teacher education and subject it to criteria which are alien to their idea of the relations between teaching and research, between the structure of their discipline and that of the education program.

The problem of integrating the basic disciplines into a professional education program manifests itself at different levels:

- at the level of influence and control, as a conflict between the autonomy claim of the disciplines and the profession's claim to leadership (in connection with a struggle for the maintenance, or modification, of decisional structures, allocation of resources, status criteria, etc.);
- at the level of the efforts made to ensure the success of the program concept, as a problem of the validity and integrative power of the professional-role orientation against the views held by the educators in the individual program components;
- at the level of theory construction, as a problem of working out concepts specifying the contribution of the various basic disciplines to the construction of professional competency.

The analysis of the implementation process in Houston has made clear that solutions of varying degrees of acceptability have been adopted. The organizational integration of the College and of the development work seems to have been satisfactory; in order to push through the program concepts concessions had to be made in some areas and the orientation of the program to the role model had to be gradually diluted according to the width of the gap separating a specific

discipline from the profession. The theoretical problems may be seen more clearly and more accurately, but their treatment has not been systematic. The shortcomings existing at the level of theory construction have obviously so strongly hampered the success of the program concept that the organizational base is no longer sufficient. In this light the growing concern for problems of assessment and research, which meanwhile have been taken up by the innovators, seems to be less resignation than a necessary consequence, and we should wait and see what its effects on the development process will be.

5.5. The system character of the innovation and the involvement of individuals

As compared to traditional teacher education programs, the introduction of CBTE means more unity and more internal consistency in the program and in the organizational structures. Cooperation among the various departments involved in teacher education was traditionally so designed that the overall duration of the teacher's studies was divided up among the departments which decided autonomously how they would use the time allocated to them. Therefore the provision for such decisions in the standards and the certification regulations does not make it mandatory to harmonize the content of the several components of the program; nor does it require, as a consequence, organizational efforts toward interdepartmental cooperation beyond the measure that is usual in universities. Individual departments - and educators within the departments - may have very diverging and even incompatible views of the teaching profession and of teacher education without it becoming visible - except for the students involved -, to say nothing of the consequences regarding the reorganization of the program. Individual educators or groups may make reformatory efforts in quite different places and with utterly different aims without having to overcome existing contradictions. In accordance

with the low level of organization and coordination, there is little awareness among the educators of the system of teacher education as a whole; the positions held on the relations between theory and practice, between the academic education and the education area, are marked by strong, and partly irreconcilable, personal idiosyncrasies. The isolation of the departments and groups with respect to content and organization is simultaneously the cause and the consequence of a lack of common ideas of the tasks and of the inner structure of teacher education. Cooperation beyond the confines of the departments is not only difficult because of the different self-concepts of those involved, but also as a result of the lack of integrative goals for teacher education in general.

The structure of the teacher education system is hence extraordinarily stable in traditional universities, although its shortcomings are felt to be very serious by many groups. Reformatory efforts are therefore mostly directed at those fields which are within the reformers' immediate reach; overreaching reforms are very seldom and difficult to implement; in most cases the efficient introduction of reforms can only be obtained through administrative measures. On the other hand, justified protest against administratively enforced innovations consolidates the tendency to seek meaningful change at the level of details only.

One should keep this problem area in mind when assessing what difficulties a reform program aimed at a global reform of teacher education, and which does not rely on administrative ruling for its enforcement, will come up to. Being systematic in character, CBTE programs require a far higher degree of organization and cooperation than traditional ones. The participants have therefore to set aside some of their particular interests or to subordinate them to the common goals. On the other hand, a reform which is not enforced administratively cannot ignore the interests of the groups involved since it depends on their active participation and

support. However, the contradictions between the views, interests and abilities of the individuals and the necessities of an integrated reform concept should not be seen statically; they develop and undergo changes in connection with the problems at hand. "Rather than merely solving particular problems, establishment of a CBTE program crystallizes the need for solutions to other problems." (Hall/Jones, 1976, p.23)

Thus CBTE is no ready-to-use product, it represents a unity of goals and reform strategies: "Many have mistakenly assumed that CBTE is some sort of package or kit that can be bought, plugged in, and operationalized with the flip of a switch. ... People who have been intimately involved in the establishment of CBTE programs know ... that CBTE is a means as well as a process for change." (Hall/Jones, 1976, p.22)

The Houston reformers were aware of the process character of a CBTE program from the very beginning. They nevertheless underestimated the ensuing consequences for implementation and were surprised by the resulting contradictions. There are contradictions, first, between the imperative of organizational integration and the necessities of personal autonomy and participation, second between the inner system character of the program and the pluralism of opinions and approaches among the educators.

The central problem inherent in finding a solution to the first contradiction is to achieve the identification of the individuals with the overall goals, or to select goals compatible with the interests of the individuals. In the innovation concept of the core group this is called the "system-ownership-problem" (4.3).

It was assumed from the start that the most important changes to be achieved in the implementation were changes in individuals: "The most important changes are the ones that occur in people. Only through people-changes can structural and organizational changes work." (See chap.2.) This area was therefore considered often during the implementation.

The implementation order sparked off serious opposition to CBTE among the educators of the College - heightened by the squabble over the new standards which mandating CBTE unleashed. Ignorance of the pilot program, discrepancies in the knowledge and identification of the normal college personnel on the one hand and of the "superstars" on the other, the threat presented to the own expert status by the obligation to adopt others' ideas and products, and low team work capability hampered the extension of the experimental program to the whole college.

Beside an adroit personnel policy³⁶ and the grouping of the instructors into teaching and development teams³⁷, the most significant steps taken to further the involvement of all participants consisted in paying great care in working out the general program guidelines (program assumptions, program characteristics, competency-model) in 1974/75 to the transparency of the decision processes, to give all college members the opportunity to state their views and to take into account their suggestions as far as possible³⁸.

All in all, it was possible, it seems, not only to win the participation of most college members in the development but also to simultaneously enhance their own professional development³⁹.

36 Cf. 3.3(a) and 4.3.

37 Cf. 4.5.4.

38 That this has been a success is especially due to the reshuffle of the structures of decision and organization at the College; see 4.4. and 4.5. The procedure has gone into the 12 recommendations for an innovative CBTE Management, Hall/Jones, 1976, pp.249ff.

39 Cf. answers to III.6. of questionnaires 1-21. We may take the answer to questionnaire 15 as an example: "It made me observe and study the teaching act more carefully. I am now aware of the different aspects of the teaching task and of the necessity to plan my own teaching more carefully and responsibly so that I can be a model of the specified competencies." Further: the acquisition of additional skills (questionnaires 4,7, 16b, 21), the acquisition of additional experience in the field of administration and development (questionnaires 4, 9), the increase in national and international prestige (questionnaire 7), opportunities and motivation for seeking additional qualification (questionnaires 8,10, 12, 19).

a) Autonomy of the operative units versus centralization of the decision processes

In their strategic reflections, the initiators of the PTPP program stressed the close connection between the personality-centered and the institution-centered approaches⁴⁰.

Institutional rules have decisive effects on the motivations and interests of the individuals involved. Therefore, they must be designed so as to stimulate participation and personal responsibility in the interest of the program. Efforts were made in Houston to reach a balance between the autonomy of the operative units and their decision and evaluation systems on the one hand and the central organizational structures on the other.

As the "natural" operative units were located within the departments, an organizational structure cutting across the structure of the departments had to be created. "Most existing programs are bundled into departmental courses. Unless you are interested in developing competency-based courses or a program within the confines of a single department, there is little in the departmental structure to encourage CBTE, for there is nothing in the system that allows for interdepartmental, interdisciplinary cooperation or collaboration." (Hall/Jones, 1976, p.243)

Provisions also had to be made for a maximum flexibility and transparency of the structures but also for clear-cut responsibilities and roles. Finally, a new organizational structure can be best enforced and is most efficient when the ensuing changes are as small as possible, i.e. when one can build as far as possible on existing structures and when the new rules are compatible with the old ones.

The adapted matrix management system meets the above mentioned criteria to a large extent. It has proved valuable in its fundamental principles (linking of the horizontal

40 Cf. chap. 2.

department structure with the vertical structure of the program management) and contributed in a decisive manner to the good cooperative atmosphere at the College. Thus the influence of individual instructors on the program was not reduced as a result of the centralization of decision making; it was even increased to the satisfaction of many individuals⁴¹. Meanwhile, the matrix system is seen as an optimal organizational model for CBTE programs, and a great deal of the experience gained in Houston has gone into recommendations for future CBTE managers⁴².

A further organizational problem does not lie in the contradictions in the management of the educators' activities but in the progress coordination in the program with the decisions made by the students concerning their studies. As the individualized program it claimed to be, PTPP could set the learning goals but had to leave it to the individual student to decide on the learning paths to be followed (and also, to a certain extent on the individually pursued goals and assessment procedures). But simultaneously the offerings had to be prepared in advance. In the pilot program this problem could be easily solved by close contacts between the students and the instructors, the student population being relatively small. The extension to the whole college suddenly gave rise to unforeseen management problems in this domain too⁴³. These were solved, poorly and in a manner contrary to the claim made by the program, through more rigid program structures, which significantly reduced individual choice.

On the whole, we may say that Houston has achieved a far higher degree of initiative and cooperation among the college

41 Cf. answers to II.6. of questionnaires 1-16. 14 out of the 17 college members who answered the questionnaire think that they exercise influence at least in their domain on the content and structure of the program; 9 are fully satisfied with their influence; only two deem it insufficient; and only one faculty member feels that his influence has been curtailed since the implementation of PTPP.

42 Cf. Hall/Jones, 1976, p.247 and Concepts 1 to 12, pp. 249ff.

43 Cf. 4.5.5.

members than in traditional programs. However, the negative surrounding conditions, a lack of clarity as to the resources and management requirements implied by some of the more radical demands of the innovation strategy and of the program, conceptional differences among the educators, resulted in the forgoing of a few claims and in a partial return to conditions prevailing in traditional teacher education institutions.

b) Pluralism vs. stringency of the program concept

The conflict between the systematic character of the program content and conceptional pluralism among the educators played a significant role in the progress of PTPP during the implementation phase.

The vaguer the concept, the less accurate the formulation of its premises and goals, the less stringent the arguments founding it, the more pluralism, the more people with diverging ideas can agree on it. On the other hand, the more explicit, differentiated and precise the concept, the more stringent the foundation, the more suitable it is as a basis for coordinating the content of the activities, and hence for organizing common learning processes, and for causing new orientations and modes of behavior to develop in the individuals involved.

The pilot phase started from only a few roughly formulated but relatively uniform premises, sufficient as a base for developing the pilot program, which involved only a small number of participants. With the extension to the whole college, these premises lost their guiding potential as the variability of the ideas of teacher education grew with the number of participants; and with the increasing number of participants, it also became more difficult, organizationally, to sufficiently unify the varying implicit interpretations of the program premises (regardless of acceptance or rejection).

The consensus finally reached at the whole college in 1975 on the basic assumptions, the characteristics and the role model of the program, reflects these problems: the formulation became more detailed and clearer but also less systematic and lacking in concept. At the same time the list of characteristics then also provided that numerous diverging views and philosophies of instruction were possible in the program from that date on⁴⁴. This represented a compromise in the program concept which was manifestly detrimental to the stringency and the uniform character of the program. The fact that no program concept of whatever kind can be founded only scientifically⁴⁵ decisively added to this eclecticism. CBTE opponents keep pointing out insistently that, so far, research has not been able to identify in a reliable manner, theoretically and empirically, the characteristics of a "good teacher"⁴⁶. Hence none of the role models basic to CBTE programs can claim to be scientifically founded. Although there is research evidence for a few individual teaching competencies, these cannot be all stringently derived as a consistent role model, if only because of the heterogeneity of the scientific approaches in Research on Teaching

The identification of competencies must hence be based on other sources than scientific findings, notably on practitioners' experience⁴⁷. There is nevertheless no cogent procedure for the use of these sources, and this mutual relationship between scientifically founded knowledge and practical experience was hardly discussed in connection with the foundation of competency models in Houston⁴⁸.

44 Cf. characteristic 5 (pluralistic) of the instruction system; 4.5.1.

45 Cf. II.4.3 of my dissertation.

46 Cf. II.4.1 of my dissertation.

47 Cf. II.4.3 of my dissertation.

48 For the stage of discussion see Cooper/Jones/Weber, 1973 and Houston, 1973.

5.6. Interrelatedness of changes in content and organization
in the implementation process

The system character not only of the program but also of the innovation process implies that changes occurring in the various subsystems are interrelated. Developments in some subsystems (or the lack of such developments) may affect the development in other subsystems.

Thus the lack of specifics in the methods courses stymied the working out of an integrated program development plan and simultaneously contributed to the fact that the operationalization of the generics was speeded up by the education courses as a separate learning unit.

When coordinating the activities of the various subsystems it is very important to observe time relations. Excessive time lags make it more difficult to coordinate common activities and hindered the communication about common problems.

However, the interrelatedness of changes is not limited to organizationally demarcated subsystems; it also applies to the various problem levels within all subsystems.

This is notably true of the relation between the program concept and the organizational structure. Traditional programs were dominated by organizational particularism based on common institutional surrounding factors and by pluralism on the basis of an abstract and formal minimum consensus at the content level. These determine and stabilize each other. CBTE programs can neither accommodate too much particularism if the program decisions are not to degenerate into hot air; nor too much pluralism if the organizational coordination is to have a content dimension at all. There is a corresponding balance problem for all transitional phases.

It is difficult to keep this dynamic balance in the process of development since the unification at the level of content and at the level of organization both have their own logic.

In the process of implementation the unification of content and organization must be notized so that all participants can be active and productive at each stage of development, i.e. via a gradual process of transformation enabling continuous learning for the individuals as well as for the institution as a whole.

The more stringent the commonly supported program concept, the easier the organizational coordination of the activities, and the better the organizational coordination, the more consequent the development of the program concept. The progress of the implementation process in Houston makes clear that the interrelatedness of both coordination problems may not be neglected if the goal of a unification of teacher education subjected to the interests of the profession is to be attained.

As in the opinions of its supporters, in CBTE programs, goal orientation also serves the purpose of creating awareness of the interrelatedness of the content and organizational aspects and of making them susceptible to regulation to the benefit of more professionalization of the education programs. But this case study suggests the conclusion that too little has been done at the level of content allowing oversimplified views of the teacher's activities and of the construction of professional competencies to prevail.

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APPENDIX 1 : METHODS OF INVESTIGATION

METHODS OF INVESTIGATION

A close look at the available literature, especially at the ERIC documentation, showed that the following institutions were particularly well-suited for carrying out a case study: the Oregon College of Education, Monmouth, Oregon, the University of Toledo, Toledo, Ohio and the University of Houston, Houston, Texas. These are teacher training institutions operating fully implemented CBTE programs for "professional education" which largely go back to the CETEMs¹. There is an abundant literature on the three programs². Additional material was supplied by H. Del Schalock (Monmouth), George E. Dickson (Toledo) and W. Robert Houston (Houston).

In summer 1976 the writer met one of the initiators of the CBTE program of the College of Education of the University of Houston, James M. Cooper, at a seminar in Wales³ where among others the concept of Competency-Based Teacher Education was a topic of discussion. This provided him with the opportunity to have a close look at the internal organization of the program by means of a case study in Houston. Besides this, it is especially the specifics of the teacher education program in Houston⁴ which urged him to choose Houston as a setting for the case study.

The idea to carry out case studies also at the two other places had to be given up because of time and money constraints.

Approval of the case study was sought via J.M. Cooper from the Research Review Committee of the Professional Teacher Preparation Program (PTPP) of the College of Education of the University of Houston. This committee is among others responsible

1 See chap. II.2 of my thesis.

2 A large part of the material, including the teaching/learning materials, are accessible via ERIC. Important texts are Schalock et al., 1976, for Monmouth, Dickson/Saxe et al., 1973, for Toledo and Felder/Weber, 1975, for Houston.

3 Continuous education seminar on "The Teaching of Teaching" organized on July, 5-9, 1976, by the Wales Education Office, Department of Education and Science, at the City of Cardiff College of Education.

4 See chap. 1.

for coordinating such projects and for taking care in so doing of the interests of program developers and of the regular education. Approval was granted, and the members of the program were told to support as best they could the research project¹. The great readiness to help with the case study local work among the members of the College - a surprising experience by West German standards - was probably due to this recommendation.

The following work was done in Houston: a questionnaire survey, interviews with representatives of the relevant groups, visits to committees and teaching activities, scrutiny and collecting of the relevant materials in the program central documentation department.

1. The Questionnaire survey

The questionnaire survey had to be limited to collecting supplementary information and to registering varying opinions on central questions and on program development. Questions were for instance asked in connection with the impact of the implementation of CBTE on the interviewees' place of work, with assessments of change and of the program perspectives of development in the institution. A stringent quantitative interpretation has not been done since the representativity of the data could not be secured.

The questionnaires were sent to the following groups: the PTPP educators, including the faculty supervisors and teacher supervisors, students and former PTPP students. Two questionnaires were developed for these groups, one for the educators² the other for the students³.

1 The local work was done between September, 27, and October, 13, 1976. This date was chosen to avoid a coincidence with the beginning of the semester - which started on August, 20, in Houston.

2 See Attachment 2. For improving the chances that the questions would be answered by the teacher supervisors, answers were invited, in accord with the Superintendent of the selected school district, only for questions I.1-5, II.3,7, III.4, 6-10 and IV.2-4.

3 See Attachment 3.

These questionnaires were developed before the writer's arrival in Houston so that there was enough time for answering them or for securing a better return ratio. The questionnaires were revised in Houston for taking account of the specifics and of the terminology of the Houston program and mimeographed¹.

The distribution list and procedures were debated by the Research Review Committee on September, 28, 1976, and fixed, in compliance with the goals of the survey, as follows:

	number of questionnaires sent	return number	%
<u>QUESTIONNAIRE A</u>			
educators	24	17	71
faculty supervisors	6	1	17
teacher supervisors	6	4	67
total	36	22	61
 <u>QUESTIONNAIRE B</u>			
elementary school teachers	4	4	100
secondary school teachers with maths as a subject	6	5	83
other	6	5	83
former students	4	0	0
total	20	14	70
total (A + B)	56	36	64

All in all, 56 questionnaire were sent. The return ratio of 64% was satisfactory. It was even very high for the educators in view of the length of the questionnaire. The participation

¹ I should like to thank especially John M. Cooper for his help with this work.

of the teacher supervisors was unfortunately very low. The high ratio of return by the students (70%) was also very satisfactory. If we allow for the scarce chances of reaching former students, the ratio is even as high as 88%.

Since some of the questionnaires gave their name although anonymity had been assured, it has sometimes been possible in the interviews to start from reactions to the questionnaire or to arrange appointments at all. On the whole, the decision to send questionnaires and conduct interviews in parallel and to renounce to develop the questionnaires only on the basis of the data and experience gained in Houston proved very valuable.

2. Interviews

The main goal of these interviews was to identify problems as they arise in this specific program in the view of the participants. This goal excluded the use of standardized interviews. Even half-standardized interviews would have, in the writer's opinion, rather hampered than helped problem identification because of the rigidity of the interviews, which would have resulted, the more so since the aim was not the quantitative interpretation of representative data but a qualitative and global registering of relevant attitudes and assessments.

However, a manual was developed for preparing the interviews on the basis of written information available on the Houston program and of the theoretical literature on CBTE¹. This manual was intended to facilitate the structuring of the interviews especially in case of the interview getting bogged down or developing in the wrong direction. The manual was kept as partner-unspecific as possible but took great care to include all relevant problems pertaining to program development, program implementation and program evaluation. It especially included questions on the following problem

¹ See Attachment 4 of my thesis.

areas:

- goal orientation of education programs via catalogues of competencies
- significance of political frame factors
- actual progress of program development
- actual progress of program implementation
- organizational changes in the education and in the program content
- competency assessment and program evaluation
- opponents' criticisms against CBTE

The following should be said about the interviews:

1. In choosing the order of the interviews care was taken to interview first people who performed themselves teaching tasks in PTPP. That is why after the representatives of the instructors college members were interviewed who had coordinating and steering functions within the three program units, within some program areas and departments, within the whole program and within the College. The original idea to also include people with functions outside the College of Education, e.g. in the Arts and Sciences Department or functionaries of the Houston Teacher Association had to be given up for lack of time.
2. The attempt was made to ask the individual views of the interviewees on the education and development problems of PTPP and to use their special experience for seeing how general problems do affect concretely the specific work of individuals and their point of view. At the beginning of the interview, the interviewee was always therefore invited to describe his/her specific job and position in the program. There was thus often the possibility to get more precise statements by e.g. inviting the interviewee to give examples for problems which he/her had himself alluded to before or reporting on his/her experience with certain organizational rules or problem solving strategies. It proved very favorable here that,

as a result of the structure of the interviews, difficulties and conflicts which had resulted from certain decisions to be implemented in the next phase were partly already known beforehand.

3. The interviews were also designed for enhancing the specific sensitivity and competency in certain problem areas and for certain perspectives of the interviewees. E.g.: With one interviewee I spoke almost exclusively about evaluation problems as it appeared clearly that this was one of his central interests in PTPP.
4. Although no one of the interviews was strictly structured according to this manual or to problem areas of this manual, it always proved useful to have an inventory of questions covering the investigated problem area and enabling the enlargement of the discussion whenever the communication horizon became to closed. Just as with the questionnaires, the interviewees were assured strictly confidential treatment of their statements. Under such conditions all interviewees readily accepted the tape recording of the interview. The length of the interview varied between 1/2 and 1 1/2 hours.

No systematic interviews were carried out with students as it was especially the changes in the education program, its content and organization and in the institution and the working conditions resulting from the introduction of CBTE at the College which interested the interviewees. The interviewees and their function were the following:

Dr. B. Dell Felder, Associate Dean for Graduate Studies;
Director of PTPP; Professor of Education.

Dr. Wilford A. Weber, Director for Program Development;
ehemaliger Direktor des CETEM der University of
Massachusetts ; Professor of Education (Teacher Education).

Dr. Martha Piper, Program Unit Coordinator of Elementary
Certification; Assistant Professor of Education (Physics
Education).

Dr. J. Milton Muse, Program Unit Coordinator of Secondary Certification; Professor of Education.

John Huber, Instructor in PTPP, Elementary Certification (Mathematics Education).

Dr. William J. Yost, Instructor in PTPP; Secondary Certification Generic Competencies Component, Phase I und II; in-service; Professor of Education.

Dr. Marvin D. Sterrett, Instructor in PTPP; Secondary Certification, Phase II; Professor of Education (Speech, Journalism, Drama).

Louis Bernemann, Instructor in PTPP; Secondary Certification.

Dr. John L. Creswell, Instructor in PTPP; Secondary Certification; Professor of Education (Mathematics Education).

N.N.^{*}, Instructor in PTPP; Elementary and Secondary Certification (Foundations of Education).

Dr. W. Robert Houston, Associate Dean for Off-Campus Activities; Director of Houston Teacher Center; ehemaliger Direktor des CETEM der Michigan State University ; ehemaliger Direktor des ersten CBTE-Pilot-Programms am College; Professor of Education (Mathematics Education).

Dr. Loye Y. Hollis, Associate Dean for Undergraduate Studies; Professor of Education (Mathematics Education).

Dr. Howard L. Jones, Director for Graduate Studies; erster Direktor von PTPP; Professor of Education (Physics Education)

Dr. Kenneth W. Brown, Chairperson of the Department of Curriculum and Instruction; Associate Professor of Education (Business Education).

Dr. Glenadine Gibb^{**}, Professor of Education (Mathematics Education), University of Texas at Austin.

Dr. Gene E. Hall^{**}, Director of Procedures for Adopting Educational Innovations/CBAM Project, R & D Center for Teacher Education, University of Texas at Austin.

Dr. Karl Massanari^{**}, Director of Performance-Based Teacher Education Project, American Association of Colleges for Teacher Education (AACTE).

^{*} Does not want to be named.

^{**} For additional information.

3. Further sources

The writer attended the meetings of:

- the Research Task Force Committee of September 27, 1976;
- the Research Review Committee of September 28, 1976;
- the Coordinating Committee of the Directors of the three program units under the chairmanship of the Program Development Director Will Weber of October 1, 1976;
- the Program Development and Implementation Council of October 5, 1976.

The writer had further the opportunity to attend a seminar for advanced students and meeting of interns with their faculty supervisor.

Besides acquainting himself with working with modules at the Learning Resources Center, the writer also had the opportunity to use the vast CBTE documentation of the Houston Teacher Center and to scrutinize and mimeograph not easily accessible material on the spot.

4. Analysis of the data

As has already been mentioned, the questionnaire survey did not claim to be representative. The interpretation of the data also took this into account insofar as quantitative treatment was seldom attempted and no use was made of statistical methods.

The questionnaires were given a number in order to allow quotation without violating the confidential treatment pledge. The following numbers were given to the following groups:

- 1 to 16b to the educators'¹ questionnaires
- 17 to 21 to the faculty supervisors' questionnaires
- 22 to 25 to the elementary teacher students' questionnaires
- 26 to 35 to the secondary teacher students' questionnaires.

All interviews were transcribed and translated into German

¹ The numbers 16a and 16b are due to the fact that one questionnaire was sent back later.

for making the treatment more easier¹. The translation was limited to reproducing the content of the interviews and internal redundancies were left out. The transcripts also received numbers. Each of the interviewees received one number between 1 and 17. Where several interviews were conducted with one interviewee, the interviews were distinguished by small letters.

For analyzing the content of the interviews a schema of categories was developed² from the following points of view:

1. Complete coverage of the interview content: the aim was to give by means of the schema of categories a comprehensive and consistent overview of the statements made in the interviews. From the methods point of view, this was achieved by breaking down the content of the various interviews by means of key words gained in advance from all interviews.
2. Interpretation of the content of the interviews from the point of view of innovation theory: the idea was to relate the content to the fundamentals of innovation theory on which the case study is based. For doing this, the writer tried to orientate the categorial schema to a schema of analysis going back to Dalin³.

The categorial schema developed for treating the interviews supplied the structure of the case study via the treatment of the remaining material. Therefore this structure represents on the one hand an important instrument of investigation; on the other, the fact that it is usable is a significant result of this study.

1 In the English translation of the case study the German quotations were translated back into English. This spared us a new hearing of the tapes and had the advantage that the interviewees could have otherwise been recognized from their language idiosyncrasies. Relinquishing totally quotations would have on the other hand meant a loss of vividness and genuineness.

2 See chap. 1, p.4.

3 See Attachment 5.

APPENDIX 2 : QUESTIONNAIRE ON CBTE AT THE UNIVERSITY
OF HOUSTON*

(teacher educators)

*The questions, which were marked as questions to be answered urgently in teacher supervisors topics are followed by an asterisk.

QUESTIONNAIRE ON CBTE AT THE UNIVERSITY OF HOUSTON

Introduction

This questionnaire is meant to collect information for a case study. Please, do not consider the suggested form as binding. Short answers and comments will be enough; in any case, brief statements will be more helpful than missing ones. Nevertheless, we would like to point out that we appreciate any detailed information and comments as well as any kind of feedback on the questionnaire as a whole or on single questions. If the given space isn't enough, please, use the back.

We would like to stress that your answers will be treated strictly confidentially. Our main intention is to benefit from your experiences because we are convinced that they can be most valuable for the reform of teacher education in the German Federal Republic.

Dankwart Vogel
Institut für Didaktik d.Mathematik
Universität Bielefeld

Questions Concerning Your Position

- 1* How long have you been at your present institution?
- 2* What is your rank and position with respect to the Professional Teacher Preparation Program? What are your main responsibilities with respect to the Professional Teacher Preparation Program?
- 3* What are your academic qualifications and professional experiences?
(e.g. BA in mathematics, 3 years teaching experience in elementary schools, 2 years of college teaching, 1 year experience with Competency-Based Teacher Education.)
- 4* How long have you been involved with the Professional Teachers Preparation Program?
- 5* Which of the following Professional Teachers Preparation Programs are you mainly connected with?
 - a) elementary certification
 - b) secondary certification
 - c) all level

6. Faculty members only:
Have you served on any committees or task forces related to the Professional Teacher Preparation Program?
 - a)
 - b)
 - c)
7. What is/was your function in these committees?
 - a)
 - b)
 - c)

Program Development and Implementation

1. In your view, have there been any specific persons, groups, or institutions which have been instrumental in the development of the Professional Teacher Preparation Program? If so, please, name them.
2. How have your professional activities changed since the competency-based teacher education program has been instituted? (e.g. portion of administrative work.) Did they remain the same during the implementation of your program?

- 3*. During the development and implementation of the Professional Teacher Preparation Program, what were the major issues concerning objectives, content, and structure of the program? (among personnel, between departments, staff and administration, College of Education and public schools, etc.). Were there any identifiable groups among whom conflicts emerged?
4. Was there opposition or resistance to the development of a competency-based teacher education program? If so, please, describe the nature of the opposition.
5. During its implementation, each program has to face institutional constraints. What was/are the relevant constraining factors and conditions during the implementation of the Professional Teacher Preparation Program?

6. Faculty members only:

Do you think you have influence on decisions regarding the content and structure of the Professional Teacher Preparation Program?

Are you satisfied with the amount of influence you have?

Has your influence on Professional Teacher Preparation Program decisions increased or decreased during the operation of the program? Why?

7*. Specifications of teacher competencies may be used for different purposes. Please indicate how important you think specifying teacher competencies are for the following four functions.

Program Functions	Very Important	Important	Somewhat Important	Not Important
a) Program design and development				
b) Program management				
c) Program evaluation				
d) Student assessment				

Program Organization and Content

1. Faculty members only:
In your opinion, what have been the three most important changes in program design and management since competency-based teacher education was implemented?
 - a)
 - b)
 - c)

2. Faculty members only:
What have been the three most important changes in the curricular content of your subject matter area since competency-based teacher education was implemented?
 - a)
 - b)
 - c)

3. Faculty members only:
What have been the three most important changes in your modes of instruction since competency-based teacher education was implemented? (e.g. use of media and technical aids, independent study)
 - a)
 - b)
 - c)

4. Supervising teachers only:
How did the implementation of competency-based teacher education change your relationship with the College of Education?
5. Faculty members and university supervisors:
How did the implementation of competency-based teacher education change your relationship with the schools?
- 6.* How has your experience with competency-based teacher education furthered your own professional development?
- 7.* Teachers education is normally divided into three components:
1) professional education
2) academic education
3) general education

Competency-orientated programs have been implemented primarily with respect to (1). Do you believe that the implementation of competency-based teacher education at the University of Houston has led to an increase in the importance of professional education within the total teacher training program?

Has the implementation of competency-based teacher education in the College of Education had any observable effect on other departments or colleges connected with the preparation of teachers?

- 8* Please indicate which of the following statements best indicates your position:
- a) competency-based teacher education should be restricted to the professional education only.
 - b) competency-based teacher education programs are fully effective only if the academic and general education programs are competency-based, also.

Please support your choice with comments.

- 9* As an instructor or supervisor within the Professional Teacher Preparation Program, with whom do you work most closely? Please rank order the appropriate role descriptions.

- ___ Other instructors within the same course
- ___ Other instructors in different courses
- ___ Instructional unit coordinator
- ___ Program Development Specialist
- ___ Professional Teacher Preparation Program Director
- ___ Director of Field Experiences
- ___ Associate Dean for Undergraduate Studies
- ___ University supervisor
- ___ Supervising teacher

Was your ranking of those with whom you work most closely different prior to the implementation of competency-based teacher education? If so, how?

- ___ Other instructors within the same course
- ___ Other instructors in different courses
- ___ Instructional unit coordinator
- ___ Program Development Specialist
- ___ Professional Teacher Preparation Program Director
- ___ Director of Field Experiences
- ___ Associate Dean for Undergraduate Studies
- ___ University supervisor
- ___ Supervising teacher

10.* With what other competency-based teacher education programs do you personally maintain contact with respect to ideas and experiences?

How would you characterize the Professional Teacher Preparation Program at the University of Houston in comparison with these programs?

Program and Student Assessment

1. "In the development of most of the CBTE programs in current operation, much more attention has been paid to such problems as those of developing modules and reorganizing instruction than to the development of adequate assessment procedure." (D.M. Medley/R.S. Soar/R. Soar)

Is this the case at Houston too?

If so, why?

- 2.* Medley, Soar and Soar distinguish between four different levels of student/teacher assessment.

"Level 1 refers to assessments of the training experiences the teacher has had."

"Level 2 refers to assessments of the teacher's behavior which he is attempting to fulfill the role of a teacher."

"Level 3 refers to assessments of the behaviors of pupils under the guidance of the teacher being assessed -- assessments of the experiences they have which we all know must form the basis for any learning that takes place."

"Level 4 refers to assessments of the outcomes of instruction -- of those changes in behavior that it is the purpose of education to bring about."

Which level of assessment do you estimate as the most important one?

Which one is given preference and why?

3. Do you think that the emphasis on frequent competency assessment has created any detrimental side effects? (e.g., anxiety for the students or emphasis on easily assessed skills.)

If so, how do you cope with such problems?

4. How are your instructional activities within the Professional Teacher Preparation Program evaluated?

Are you satisfied with these evaluation procedures? If not, why are you dissatisfied?

5. How is the total Professional Teacher Preparation Program evaluated? Please name some of the main procedures and results of the evaluation.

APPENDIX 3 : QUESTIONNAIRE FOR STUDENTS AND FORMER STUDENTS
OF THE PROFESSIONAL TEACHER PREPARATION PROGRAM

Questions Concerning Your Position

1. In which of the following Professional Teacher Preparation Programs are/were you enrolled?
 - a) elementary certification
 - b) secondary certification
 - c) all level
2. Of (b) or (c) above, in what subject matter areas?
3. Currently enrolled students only:
In which of the four phases of the Professional Teacher Preparation Program are you enrolled?
4. Former students only:
When did you finish the Professional Teacher Preparation Program?

Program Structure and Content

1. Which are/were the three most frequent modes of instruction employed in your Professional Teacher Preparation Program courses? (e.g., lecture, independent study, etc.)
Please rank order.
 - a)
 - b)
 - c)

2. From which modes of instruction do/did you gain the most?
Please rank order.
- a)
b)
c)
3. Do/did you feel that the individual components and units of the Professional Teacher Preparation Program are/were well coordinated?
If no, please give reasons (e.g., overlapping, lack of logical order, etc.).
4. Do/did you feel that you have/had enough freedom of choice within the Professional Teacher Preparation Program? If no, why not?
5. Please indicate how important you think student influence is on the following four items.

	Very Important	Important	Somewhat Important	Not Important
Program Structure				
Program Content				
Modes of Instruction				
Modes of Feedback and Assessment				

Guidance and Assessment

1. Do/did you feel that you are/were provided with enough guidance opportunities within the Professional Teacher Preparation Program? If not, please comment.

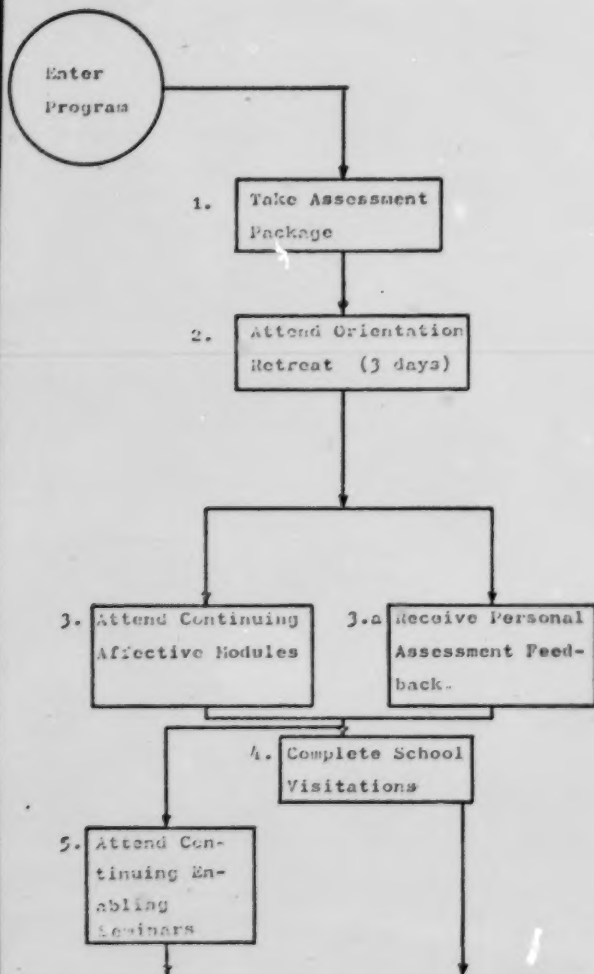
2. Do/did you feel that you should have had more information on your personal program within the Professional Teacher Preparation Program?

What kind of feedback do/did you appreciate the most? Please give reasons.

3. Do/did you perceive the assessment procedures and/or their frequencies within the Professional Teacher Preparation Program as adequate? Please support your view with comments.

APPENDIX 4 : PROGRAM STRUCTURE OF THE PILOT PROGRAM*

*See Houston/Jones/Howsam, 1973, pp. 111-138; the program overview has been originally written for the students of the pilot program.



1. Designed to aid you and your instructors in determining input into your personalized program.

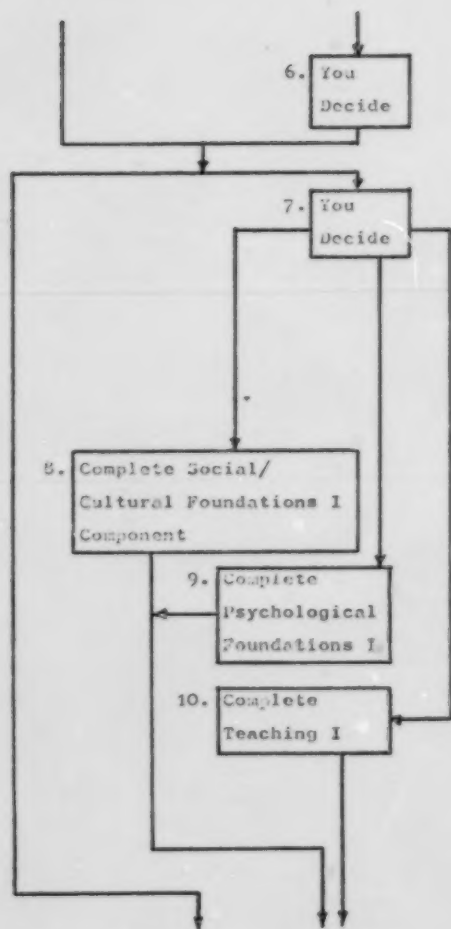
2. Designed to help you in becoming a team member with other students with similar interests and backgrounds. Also it is designed to allow you to focus on your personal goals as well as to acquaint you with faculty/staff members whom you will work with during the remainder of your program.

3. Interaction started during the retreat will be continued throughout the remainder of the program in affective instructional modules.

3.a Here you talk with a counselor to receive feedback on the assessment package you took the first thing in the program.

4. Here you visit the CBTE Portal schools, get to see classes, meet teachers, principals, and students.

5. During the time of your school visitations and also throughout the remainder of your program you attend seminars with your group and group leader.



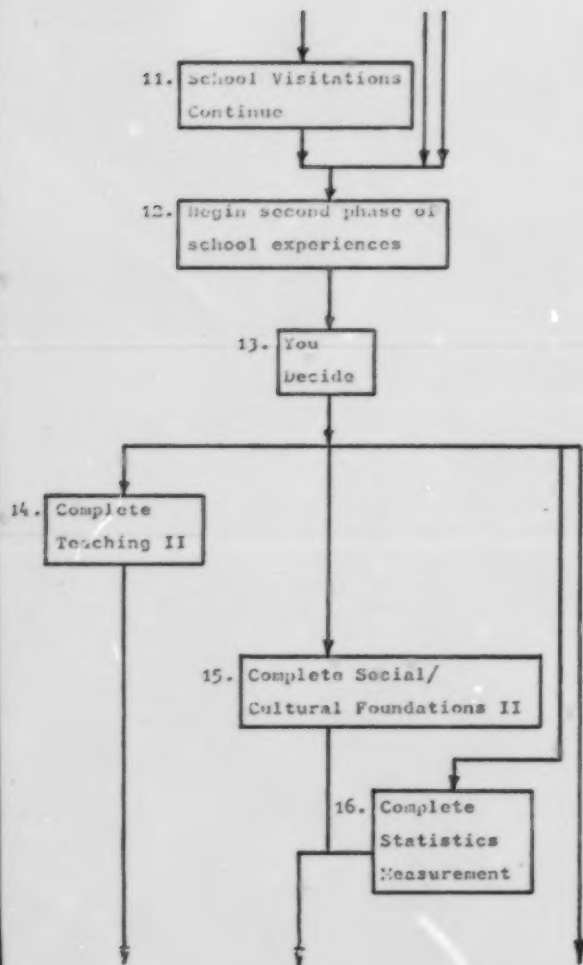
6. Now you decide which school and teacher (s) you would like to work in and with as you start your school experiences.

7. Next you make some decisions about the competencies you need to acquire at the beginning of the program. You must demonstrate all of the minimal competencies identified in steps 8, 9, and 10 but they can be acquired and demonstrated in any order. These components identified in 8, 9, and 10 are clusters of smaller instructional packets (modules) designed to get to increase your competencies.

8. This component is designed for you to view the social and cultural forces that effect a child in school.

9. This component is designed for you to view the psychology of classroom learning and to acquire definitional and operational views of learning in the school.

10. This component focuses on your planning, implementing, and analyzing your own teaching strategies. The emphasis here is on basic technical skills in the area of planning, reinforcement, set induction, nonverbal mannerisms, and stimulus variations.



11. During the period of time it takes you to complete up to # 10 you will spend the average of 1/2 day per week in the school chosen in # 6.

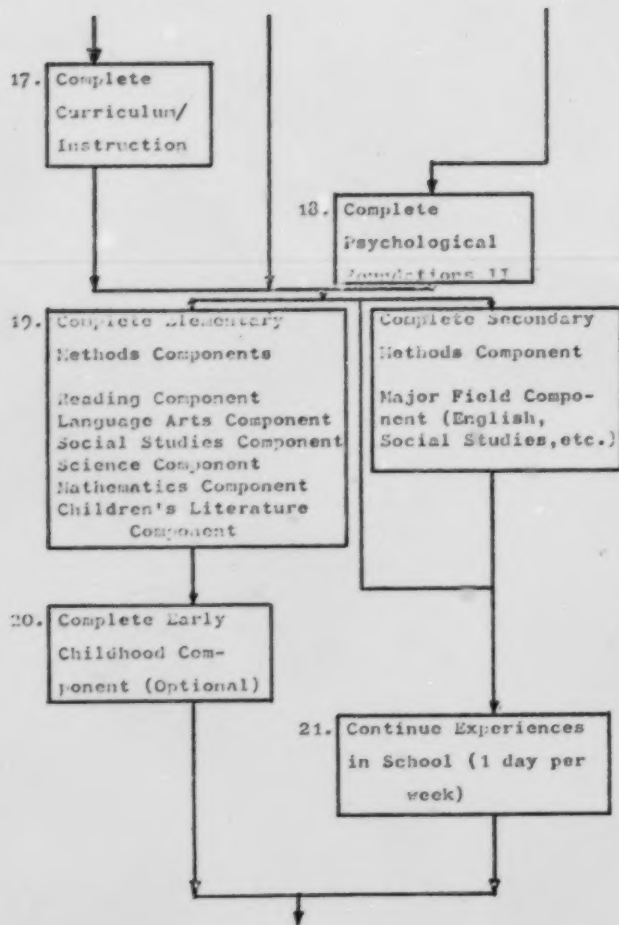
12. This is 1 full day of work in the schools. Recommended as 2 half days for secondary and 1 full day for elementary majors.

13. Next you decide the competencies you need in the second cluster of components. You must demonstrate all minimal competencies identified in steps 14-18 but they can be attacked in any order.

14. This component focuses on advanced teaching skills such as asking probing questions and using classroom management techniques. It also provides you with a coding system you can use to analyse your classroom interactions.

15. This component focuses on the economic, and religious factors influencing behavior of pupils in school as well as on the values and roles played by pupils.

16. This component focuses on the theory and practice of assessment as well as emphasizing the competencies of test construction and result reporting.

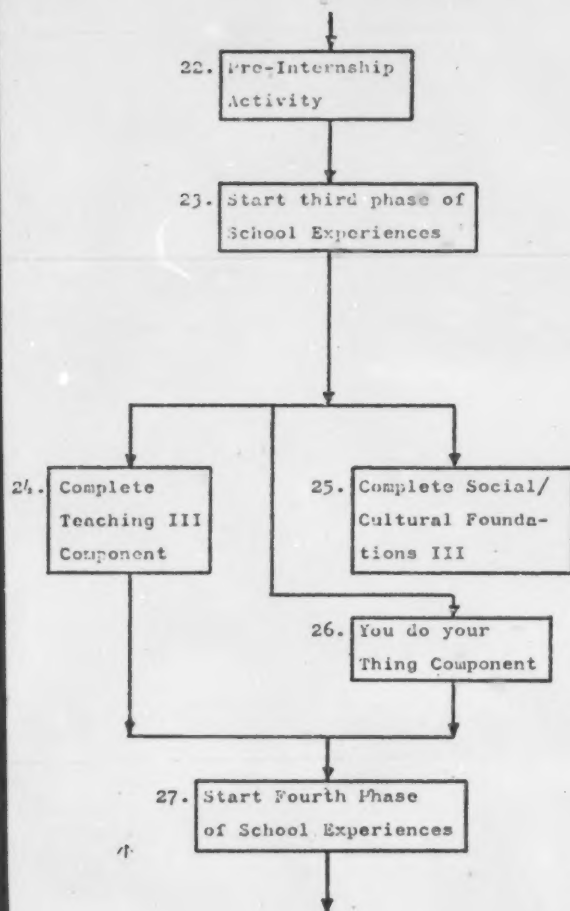


17. This component focuses on the theory and practice of identifying, setting and implementing curriculum decisions in your teaching.

18. This component focuses on the use of psychology principles in teaching.

19. Depending on your major field (secondary/elementary) you will be expected to acquire the specific competencies needed for teaching subject matter. These components focus on the curriculum and instructional materials unique to teaching specific areas. Note should be made here that these components individually are shorter than the normal methods courses because much of the normal courses is covered earlier during earlier components of CBDE.

20. Students wanting kindergarten endorsement are also required to demonstrate other competencies in an early Childhood component.



22. This activity is designed as a diagnostic period where groups of students work together to refine and integrate the necessary skills for internship.

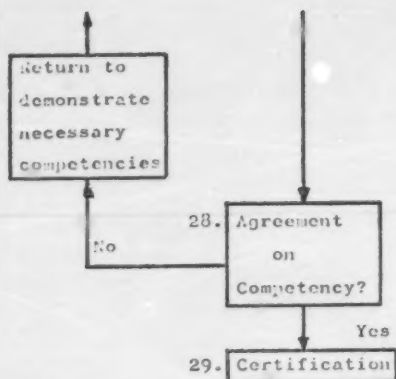
23. This third phase consists of your doing an internship (all day, everyday elementary, half day, everyday secondary) in your chosen school. During this equivalent of student teaching, you will be expected to demonstrate your acquired competencies in the "real world".

24. This component focuses on advanced teaching skills applicable to your internship. Completion of these skills signals the end of your phase III school experiences.

25. This component focuses on school law and educational philosophy, both your own and others.

26. Your thing is another way of saying that we think you should have some kind of specialty. We will design any instructional materials you wish that matches an area of competency that you want to focus on.

27. In this phase you are moved to another school and are expected to demonstrate competency in a new teaching setting.



28. If agreement is reached by your cooperating teacher, by you, and by the CBTE staff, you are recommended for certification.

29. But remember, teaching skills and competencies are not static. You will probably continue into advanced teaching skill learnings as prescribed and provided by your school district.

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Steps 1-11 are the equivalent of 6 semester hours of course work.

Steps 12-18 are the equivalent of 6 semester hours of course work.

Steps 19-21 are the equivalent of 3 hours secondary and 9 hours elementary (12 hours early childhood).

Steps 22-27 are the equivalent of 9 semester hours.

APPENDIX 5 : PROFICIENCY ANALYSIS RATING-INSTRUMENT (PAR)*

*Houston/Jones/Howsam, 1973, 240-253.

Name _____ Date _____ School _____
Observer _____ Subject _____

PROFICIENCY ANALYSIS RATING

Classroom Climate

- 1.0 CREATES A POSITIVE AFFECTIVE CLIMATE CONDUCTIVE TO OPTIMAL LEARNING

YES _____ Yes _____ No _____ NO _____ Not Observed

- 2.0 CREATES A PLEASANT AND COMFORTABLE PHYSICAL ENVIRONMENT IN THE CLASSROOM

YES _____ Yes _____ No _____ NO _____ Not Observed

- 3.0 ACCEPTS AND USES INTER/INTRA CULTURAL DIFFERENCES TO BUILD SELF-CONCEPT AND TO INCREASE PUPILS' ABILITIES TO RELATE TO OTHERS

YES _____ Yes _____ No _____ NO _____ Not Observed

- 4.0 POSITIVELY RELATES CLASSROOM MANAGEMENT TO PUPIL INTELLECTUAL, SOCIAL, AND PSYCHOLOGICAL GROWTH

YES _____ Yes _____ No _____ NO _____ Not Observed

- 5.0 PROVIDES FOR THE USE OF FREE, OPEN COMMUNICATION WITHIN THE CLASSROOM

YES _____ Yes _____ No _____ NO _____ Not Observed

Instruction

- 6.0 ORGANIZES INSTRUCTION AROUND GOALS AND OBJECTIVES

YES _____ Yes _____ No _____ NO _____ Not Observed

Instruction (continued)

7.0 USES INSTRUCTIONAL STRATEGIES BASED ON PRE-DEFINED OBJECTIVES

YES _____ Yes _____ No _____ NO _____ Not
Observed

8.0 COORDINATES ROUTINE TASKS TO OPTIMIZE STUDENT GROWTH AND
MAXIMIZE USE OF INSTRUCTIONAL TIME

YES _____ Yes _____ No _____ NO _____ Not
Observed

9.0 USES EVALUATION PROCEDURES TO FACILITATE ACHIEVEMENT OF
OBJECTIVES

YES _____ Yes _____ No _____ NO _____ Not
Observed

Professional Development

10.0 ADAPTS TO NEW OR CONFUSING SITUATIONS READILY

YES _____ Yes _____ No _____ NO _____ Not
Observed

11.0 EVALUATES OWN TEACHING BEHAVIOR USING CODING INSTRUMENTS
(INTERACTION ANALYSIS, CHECK LISTS, ETC.) AND PLANS FOR
CHANGE ON BASIS OF RESULTS

YES _____ Yes _____ No _____ NO _____ Not
Observed

12.0 WORKS EFFECTIVELY AS A MEMBER OF AN EDUCATION TEAM

YES _____ Yes _____ No _____ NO _____ Not
Observed

Classroom Climate

1.0 INTERN CREATES A POSITIVE AFFECTIVE CLIMATE CONDUCIVE TO OPTIMAL LEARNING

Pre-Active Indices	Active Indices	
	Teacher	Pupils
1.11 Describes and gives rationale for advanced planning for supportive social/emotional climate	1.31 Appears to be comfortable and confident	1.51 Appear relaxed
1.12 Determines points in lesson at which maximum involvement can occur	1.32 Has pleasant facial expressions (smiles when appropriate)	1.52 Are attentive
1.13 Provides for individual recognition and group interaction	1.33 Brings in isolate and encourages all to participate	1.53 Are actively engaged in learning activities
1.14 Analyzes responses and identifies them as evaluation, interpretive, probing, supportive, and/or understanding	1.34 Uses silence effectively	1.54 Appear to enjoy school
	1.35 Calls students by name	1.55 Seem to relate well to teacher and to other pupils
	1.36 Enjoys teaching and working with pupils	1.56 Do not disengage themselves from teacher
	1.37 Appears to like pupils	1.57 Work independently and help each other
	1.38 Works with and helps individual pupils both in and out of class	1.58 Appear satisfied with teacher responses (do not appear uncomfortable or to feel as if they have been "put on the spot")
	1.39 Does not disengage himself from pupils (touch, life-space)	
	1.40 Encourages pupils to independent action	
	1.41 Is accepting of pupil as a person when mistakes are made	
	1.42 Uses the following types of responses appropriately (evaluative, interpretive, probing, supporting, and understanding).	
	1.43 Demonstrates authenticity	

Classroom Climate

2.0 CREATES A PLEASANT AND COMFORTABLE PHYSICAL ENVIRONMENT IN CLASSROOM

Pre-Active Indices	Active Indices	
	Teacher	Pupils
2.11 Plans environments with physical comfort and safety of pupils in mind	2.31 Provides seating arrangements for a variety of interaction/communication patterns	2.51 Appear comfortable, alert (appropriate seating, temperature, ventilation, lighting).
2.12 Plans for displays relevant to objectives, pupil interests, and background	2.32 Arrange; or works with pupils to provide colorful bulletin boards and displays	2.52 Follow rules for safety, emergency procedures
	2.33 Provides learning centers for a variety of independent, small group activities	2.53 Work during non-structured time periods in learning centers
	2.34 Provides physical environment which stimulates and facilitates pupil exploration	2.54 Contribute to bulletin boards, learning centers, and other display/discovery areas
	2.35 Arranges materials and aids so that they are accessible to teacher and pupils	

Classroom Climate

3.0 ACCEPTS AND USES INTER/INTRA CULTURAL DIFFERENCES TO BUILD SELF-CONCEPT AND TO INCREASE PUPILS' ABILITIES TO RELATE TO OTHERS

Pre-Active Indices	Active Indices	
	Teacher	Pupils
3.11 Considers cultural background of pupil when defining role of pupil, teacher	3.31 Accepts and interacts with pupils from other cultural groups as often as with pupils from his own cultural group	2.51 Pupils with different cultural backgrounds interact freely and openly with one another
3.12 Describes pupils in terms of individual characteristics, not in terms of a particular group membership	3.32 Uses instructional materials, displays, etc., that reflect a number of cultural groups, especially those represented in classroom	2.52 Pupils from minority groups speak proudly (not defensively) of contributions made by their culture; describe customs, beliefs, etc.
3.13 Plans to use culture of pupils as a vehicle for instruction and social interaction	3.33 Recognizes special days, events, customs, "heroes" of all cultural groups represented in class, and provides opportunities for pupils to study their own and others' culture	
	3.34 Describes the unique characteristics, needs, of the community in terms of available research	
	3.35 Describes desires of local community as they relate to educational goals and priorities	

Classroom Climate

4.0 POSITIVELY RELATES CLASSROOM MANAGEMENT TO PSYCHOLOGICAL PUPIL INTELLECTUAL, SOCIAL AND PSYCHOLOGICAL GROWTH

Pre-Active Indices	Active Indices	
	Teacher	Pupils
4.11 Plans management procedures which (1) facilitate achievement of objectives (2) facilitate achievement of group unity and cooperation and (3) establish group standards and coordinated work procedures	4.31 Maintains or restores group morale 4.32 Handles group conflict in a positive manner 4.33 Uses group properties (cohesiveness, interaction, communication, structure, norms and goals) to facilitate achievement of objectives	4.51 Manage routine tasks themselves 4.52 Provide sanctions for behavior that is distracting or non-productive 4.53 Discuss management problems and offer suggestions, solutions, procedures
4.12 Identifies ways that pupils cope	4.34 Uses problem solving (group) to improve classroom climate	
4.13 Distinguishes between positive and negative coping behavior	4.35 Works toward changing unacceptable established behavior patterns to those which are more productive	
4.14 Determines when professional help may be needed and identifies appropriate resource people	4.36 Reacts positively to pupils who cannot get along by communicating a need to use socially acceptable coping behavior 4.37 Objectively looks for reasons for coping behaviors other than those which are on the surface 4.38 Treats pupils differently, and uses strategies that are appropriate for helping each pupil cope in ways that are positive and constructive	

Classroom Climate

5.0 PROVIDES FOR THE USE OF FREE, OPEN COMMUNICATION WITHIN THE CLASSROOM

Pre-Active Indices	Active Indices	
	Teacher	Pupils
5.11 Identifies activities and situations that can improve communications skills	5.31 Interprets attending behavior of pupils	5.51 Communicates ideas and feelings through a variety of media
5.12 Predicts interaction patterns that will be visible in classroom during specified periods of instruction	5.32 Uses and encourages pupils to use a variety of media to communicate ideas and feelings	5.52 Communicates effectively in more than one communication mode or pattern
	5.33 Recognizes and provides for a variety of communication patterns in the classroom	
	5.34 Encourages and reinforces effective individual communications within a variety of modes	
	5.35 Serves as a communications model in both receiving and transmitting	
	5.36 Encourages respect for dialects representing different cultural groups	
	5.37 Demonstrates legible handwriting	
	5.38 Gives clear explicit directions	
	5.39 Creates interaction patterns which are consistent with those predicted by teachers	

Instruction

6.0 ORGANIZES INSTRUCTION AROUND GOALS AND OBJECTIVES

Pre-Active Indices	Active Indices	
	Teacher	Pupils
6.11 Identifies goals and objectives through diagnostic procedures	6.31 Works with pupils to help them identify their own goals, objectives, and rewards	6.51 Can communicate objectives toward which they are working by actions and/or verbalizations
6.12 States objectives behaviorally so they communicate to pupils	6.32 Varies objectives and activities based on individual needs of learners	
6.13 Sequences objectives and sub-objectives to provide continuity of pupil development		
6.14 Identifies curriculum slant from which goals and objectives are derived		
6.15 Defends appropriateness of objectives in terms of pupil, school, and community		
6.16 Task analyzes objectives to identify sub-objectives		

Instruction

7.0 USES APPROPRIATE INSTRUCTIONAL STRATEGIES BASED ON PRE-DEFINED OBJECTIVES

Pre-Active Indices	Active Indices	
	Teacher	Pupils
7.11 Designs lesson plans which include objectives, instructional alternatives (activities, materials, tactics) motivation, evaluation, and management procedures	7.31 Establishes set (motivation transition, classroom environmental conditions) which are varied and appropriate	
7.12 Rationalizes instructional alternatives (tactics, activities and materials) in terms of objectives and pupil characteristics	7.32 Uses explanations, illustrations, statistics, and specific instances appropriate to pupils	
7.13 Provides alternative learning settings (e.g., field trips, school, community)	7.33 Uses appropriate and varied stimuli (e.g., voice tones, chalk-board, visual aids, models, overhead and slide projectors, movies, and varied interactive styles)	
7.14 Sequences activities logically and psychologically	7.34 Asks questions appropriate for level and type of thinking required in objectives (e.g., memory level, higher level, probing and divergent)	
7.15 Plans for use of a variety of instructional modes including guided discovery or inquiry, role playing, simulation, gaming, lecture, concept development, demonstration, socio-drama, discussion, skill development or reinforced practice	7.35 Uses appropriately a variety of reinforcement techniques and rewards	
7.16 Plans to use a variety of instructional organization modes (independent, small group, one-to-one peer, total class, and for groups larger than class)	7.36 Alters instructional mode when feedback from pupils' indicates (e.g., attending behavior)	
	7.37 Provides closure and transactions	
	7.38 Uses a variety of instructional modes	
	7.39 Uses a variety of organization modes	

Instruction

8.0 COORDINATES ROUTINE TASKS TO OPTIMIZE STUDENT GROWTH AND MAXIMIZE USE OF INSTRUCTIONAL TIME

Pre-Active Indices	Active Indices	
	Teacher	Pupils
8.11 Plans for routine classroom tasks	8.31 Encourages pupils to identify and manage routine tasks themselves, and to monitor themselves for task completion	8.51 Pupils follow routine procedure for submitting papers, collecting money, etc.
8.12 Plans for pupil instruction in use and care of materials and equipment	8.32 Uses time effectively for routine tasks	8.52 Pupils manage and carry out routine tasks
	8.33 Uses routine tasks as learning experiences for pupils	

Instruction

9.0 USES EVALUATION PROCEDURES TO FACILITATE ACHIEVEMENT OF OBJECTIVES

Pre-Active Indices	Active Indices	
	Teacher	Pupils
9.11 Specifies appropriate formative and diagnostic procedures for the lesson	9.31 Uses a variety of evaluation techniques to diagnose student weaknesses, evaluate mastery level, and evaluate terminal level over large units of instruction	
9.12 Develops a table of specifications for teacher-made achievement tests	9.32 Constructs tests from the table of specifications	
	9.33 Calculates the test reliability	
	9.34 Calculates an item analysis	
	9.35 Develops test norms for summative tests	

Professional Development

10.0 ADAPTS TO NEW OR CONFUSING SITUATIONS READILY

Pre-Active Indices	Active Indices	
	Teacher	Pupils
10.11 Analyzes, interprets his own behavioral characteristics in crisis situations	10.31 Deals with professional conflict in such a way that he does not become ineffective	
10.12 Accepts responsibility for actions and consequences of actions by not blaming external factors for situations that develop	10.32 Displays tolerance for ambiguity	

Professional Development

11.0 EVALUATES OWN TEACHING BEHAVIOR USING CODING INSTRUMENTS (INTERACTION ANALYSIS, CHECK LISTS, ETC.) AND PLANS FOR CHANGE ON BASIS OF RESULTS

Pre-Active Indices	Active Indices	
	Teacher	Pupils
11.11 Uses video or audio- tapes to analyze certain aspects of his teaching style	11.31 Demonstrates willingness to alter teaching style when feedback indicates	
11.12 Codes classroom in- teraction using an accepted validated procedure, and analyzes results		

Professional Development

12.0 WORKS EFFECTIVELY AS A MEMBER OF AN EDUCATIONAL TEAM

Pre-Active Indices	Active Indices	
	Teacher	Pupils
12.11 Describes the policies and organization of the school	12.31 Meets deadlines promptly (reports, lists, assignments, etc.)	
12.12 Describes organizational climate of the school	12.32 Refrains from criticisms of professional colleagues	
	12.33 Cooperates with other staff members by sharing ideas, materials, observations and critiques	
	12.34 Assumes equal part in duties and responsibilities	
	12.35 Participates in faculty meetings if appropriate	
	12.36 Arrives at school on or before scheduled time	
	12.37 Follows school policy regarding discipline, emergency procedures, routine safety rules.	

APPENDIX 6 : MEMORANDUM OF THE ASSOCIATE DIRECTOR FOR
PROGRAM DEVELOPMENT, PROFESSIONAL TEACHER
PREPARATION PROGRAM, OF APRIL 9, 1975*

*Houston: University of Houston, College of Education, 1975.

MEMORANDUM

TO: College of Education Faculty

FROM: Will Weber, Associate Director
for Program Development
Professional Teacher Preparation
Program

RE: Professional Teacher Preparation
Program Development

DATE: April 9, 1975

This memorandum serves as a follow-up to my March 5, 1975, memorandum which: (1) provided you with a description of the development activities relevant to the Professional Teacher Preparation Program (PTPP); and (2) solicited feedback from you regarding those development efforts. As noted in that earlier memorandum, the assumption is that the preparation of undergraduate teacher education students is a College-wide activity which can be maximally effective only if all faculty of the College have an opportunity to be informed about and have input in the PTPP's design and operation. Many faculty members did respond to the request for feedback; several took the opportunity to discuss their concerns and suggestions directly. The descriptions of PTPP development activities—those forwarded to you on March 5—were revised to reflect faculty concerns; the revisions are attached. Obviously, the revised documents do not—for they could not—incorporate all the suggestions made because some were not related to aspects of the PTPP the documents were intended to describe. Consequently, the revised documents do not attend to certain of the issues raised by responding faculty.

The attached documents are copies of those which have been forwarded by the PDIC to the Undergraduate Studies Committee of the College for review. If you find that you have concerns which are not addressed in these documents, please contact me or a member of the Undergraduate Studies Committee. While it is important that closure be brought to certain aspects of the program design, it is more important that this not be done prematurely. Please study these documents and make your concerns—if any—known so that they can be given due consideration. It is likely that the Undergraduate Studies Committee will act on this at their meeting of April 22.

WAW:ev

Attachment One. The Program Development and Implementation Council

The Professional Teacher Preparation Program (PTPP) is the undergraduate teacher education program of the College of Education of the University of Houston. The PTPP is designed for teacher education students pursuing baccalaureate degrees and provisional certification as elementary school teachers, secondary school teachers, or teachers of all levels in art, health and physical education, or music; additionally, it is designed for students seeking special endorsements to their provisional certification. Thus, the PTPP is a College-wide effort to develop and operate an integrated and comprehensive instructional system for the training of undergraduate teacher education students.

In order to enhance the program's effectiveness and efficiency, a management system has been created. The Program Development and Implementation Council (PDIC) is the management team responsible for coordinating and facilitating the conceptualization, design, development, implementation, operation, and evaluation of the PTPP. In understanding the PDIC, there are two major issues which should be kept in mind with regard to its structure and function:

1. The PDIC is a management team. The team consists of: the Director of the PTPP, Dell Felder; the Associate Director of PTPP for Program Operation, Carl Schomberg; the Associate Director of PTPP for Program Planning, Jay Shores; the Associate Director of PTPP for Program Development, Will Weber; the Elementary Program Coordinator, Howie Jones; the Secondary Program Coordinator, Milt Muse; the All-Levels Program Coordinator, Sue Garrison; the Director of Field Experiences, Al Warner; the Director of the Learning Resources Center, Joe Schroeder; and the Director of the Drug Education Project, Don Edwards; and the Associate Dean for Undergraduate Studies, Mickey Hollis. Thus, the team has members from each of the four departments of the College which have a direct role in the undergraduate teacher education program: Curriculum and Instruction, Foundations of Education, Guidance and Counseling, and Health and Physical Education. The major function of the PDIC is one of program management; it is responsible to the Associate Dean for Undergraduate Studies for fulfilling this function. In addition, it is responsible for making program-related policy and curriculum recommendations to the Undergraduate Studies Committee.
2. The PDIC is responsible for coordinating and facilitating all aspects of the PTPP. It is most important to note that the central task of the PDIC is one of coordination and facilitation. Responsibility and accountability for design and delivery of the various instructional components of the PTPP rests with various operating units within the College. Specifically, the PTPP management system calls for operating units of the College to continue

Attachment One (continued)

to have PTPP instructional component design and delivery responsibility and accountability as follows: (a) Art Education Component, Art Education Program Area; (b) Business Education Component, Business Education Program Area; (c) Counseling Component, Department of Guidance and Counseling; (d) Curriculum Education Component, Curriculum Education Program Area; (e) Early Childhood Education Component, Early Childhood Education Program Area; (f) Foundations of Education Component, Department of Foundations of Education; (g) Generic Competencies Component, Teacher Education Program Area; (h) Health and Physical Education Component, Department of Health and Physical Education; (i) Industrial Education Component, Industrial Education Program Area; (j) Language, Literature, and Reading Component, Language, Literature, and Reading Program Area; (k) Mathematics Education Component, Mathematics Education Program Area; (l) Multicultural Education Component, Multicultural/Bilingual Education Program Area; (m) Music Education Component, Music Education Program Area; (n) Science Education Component, Science Education Program Area; (o) Social Studies Education Component, Social Studies Education Program Area; and (p) Special Education Component, Special Education Program Area.

Clearly, if the PDIC is to be maximally effective in fulfilling its coordination and facilitation responsibilities and if the various operating units of the college—departments and program areas—are to be maximally effective in fulfilling their respective instructional component design and delivery responsibilities, their efforts must be characterized by a high level of cooperation. Thus, effective communication processes and participatory decisioning processes which ensure clarity of purpose, delineation of responsibilities, and involvement of those concerned is essential to success. In a complex organizational structure, such processes are not easily obtained or maintained; they come only from collaborating effort. Consequently, all who are involved in the PTPP—whatever their roles—must commit themselves to such collaboration.

Attachment Two. The Program Development Strategy

This attachment provides a brief description of the program development strategy which has been and is presently being employed with regard to the Professional Teacher Preparation Program (PTPP). As noted in Attachment One, coordination and facilitation of these activities is the responsibility of the Program Development and Implementation Council (PDIC) and, consequently, were initiated with the beginning of the fall, 1974, semester. The following are the major program development tasks as presently conceived:

1. The first task faced by the PDIC was one of deciding on the program development strategy which would be utilized. It was agreed that:
(a) a systems approach would be used; (b) ample opportunity would be provided for faculty input in the design process; (c) products from previous faculty efforts would be utilized to the greatest extent possible; (d) the process would require considerable effort over a several year period; and (e) adequate time and attention needed to be given to program conceptualization and design prior to actual development activities.
2. The second task, then, was one of collecting products which had been generated by faculty during the past several years. These were many and varied. They included program descriptions, instructional modules, evaluation reports, position papers, lists of assumptions, and lists of objectives.
3. While the second task was being accomplished, agreement was reached regarding the specific issues which would be attended to in the program's conceptualization. It was agreed that certain assumptions which undergird the program would be generated. These include: (a) the needs of society; (b) the nature of learning; (c) the role of the teacher; and (d) the characteristics of the instructional system. Assumptions concerning the needs of society provided a basis from which to describe the role of the teacher as conceived in the program; assumptions concerning the nature of learning provided a basis from which to generate characteristics regarding the program instructional system. Assumptions concerning the role of the teacher were seen as a basis for the identification and specification of teacher competencies. Assumptions concerning the characteristics of the instructional system were viewed as setting the parameters within which the development of instruction relevant to those competencies could take place.
4. Having collected large quantities of previously produced "faculty products" and having reached agreement on the types of assumptions which would be generated, the next task was one of gleaning from those products the "pieces" which would be useful in fleshing out each of the four sets of assumptions. This task was completed in rough draft form and reviewed by the PDIC in December.

Attachment Two (continued)

5. During the same period of time, considerable attention was being given to the generation of a list of generic teaching competencies. Previous faculty efforts were again very heavily drawn upon in this effort; additionally, all faculty members directly associated with the teaching of the introductory courses in the undergraduate teacher education program were involved in the development and refinement of the resulting list of fifteen competencies. These were submitted to and approved by the Undergraduate Studies Committee. Attachment Three presents a listing of those generic teaching competencies.
6. The PDIC's review of the assumptions led to revisions which were accomplished during January and February. In addition, efforts during this period resulted in the conceptualization of a teacher competencies model. The four sets of assumptions and a description of the teacher competencies model is also provided in Attachment Three.
7. The next task was one of providing the faculty with information about the program development efforts and providing each with the opportunity to react to both the process and products of that development effort. It was the intent of the PDIC that a memorandum sent to each faculty member and subsequent discussions would accomplish the objectives of this task. Considerable faculty feedback was received by the PDIC.
8. Using the feedback received, a revision of the materials has been made on the basis of faculty feedback and was submitted to the PDIC at its meeting of April 8. After review and approval by the PDIC, a draft is being forwarded to the Undergraduate Studies Committee on April 9.
9. During this same period, each department and program area responsible for an instructional component of the PTPP is asked to prepare a list of competencies appropriate to its particular component; (it is hoped that these listings would be similar to the one which already exists for the generic teaching component). As these lists are being prepared, the Associate Director of PTPP for Program Development will consult with departments and program areas as requested. Additionally, each department and program area should note the title or titles of the instructional module or modules which will be developed for each of those competencies and should indicate the sequence in which those modules would be best taken by the student. It is important that this information be prepared by each of the departments and program areas and forwarded to the PDIC by May 15.
10. Certain members of the PDIC will work this summer to draft a comprehensive design for the PTPP. This design would be comprehensive in that it will reflect and integrate the design specifications of each component as conceived by the department or program area responsible for the design and delivery of that component. Additionally, the design would attend to issues relating to program evaluation; an evaluation model would be generated in draft form. It is expected that this program design would be ready for faculty review and submission to the Undergraduate Studies Committee early in the fall, 1975, semester.

Attachment Two (continued)

11. Upon approval of the comprehensive design by the Undergraduate Studies Committee and the faculty of the College, the efforts of the PDIC and the various departments and program areas would move from program design to instructional development. The 1975-76 academic year would be devoted to the design and development of instructional modules. This would include the purchase and production of instructional materials to support those modules and staff development activities for both "new" and "old" faculty. This period would also be used to flesh out the evaluation process. Attention would be given to questions of design, instrumentation, and analysis.
12. Full implementation of an integrated, comprehensive teacher education program for undergraduate teacher education students would be implemented in the 1976-77 academic year. Program development efforts will largely have given way to program implementation efforts. During this period, design and development efforts would be aimed toward refinement and modification as dictated by feedback regarding program effectiveness.
13. Operation of the program during the 1976-77 academic year would, in effect, constitute a field test. This period would represent the first time that the College had "put together all the pieces" of the PTPP. Careful attention would be given to describing those "pieces" and the whole which they constituted. Therefore, evaluation would also characterize this period. Its primary purpose would be to provide data which would permit informed decisions regarding program refinement. Both evaluation and refinement would be ongoing processes.
14. Program operation beyond that first year of full implementation would continue to involve evaluation and refinement processes characteristic of an open system. And as previously, ample attention would be given to orienting, informing, and assisting new faculty with regard to their program responsibilities.

Two additional points are worth noting: (1) the program development strategy described above will be implemented in a manner which recognizes and respects the fact that: (a) the development efforts of the various departments and program areas responsible for the instructional components of the PTPP are at different stages—some are just beginning while others have made great progress; and (b) although the strategy has received the endorsement of the Undergraduate Studies Committee of the College, which described it as "consistent with the implementation guidelines which have been established by the Committee," it should not be viewed as "cast in concrete." The view here is that the strategy's appropriateness, feasibility, and utility can only be determined by the faculty who are involved. Consequently, it must be examined on a regular basis and changed accordingly.

Attachment Three. The Professional Teacher Preparation Program

Introduction

This attachment describes the present status of various aspects of the Professional Teacher Preparation Program (PTPP) of the College of Education. It is a description of the program development products of the PDIC to date and, as such, is subject to revision and approval. The PTPP has been designed for teacher education students pursuing baccalaureate degrees and provisional certification as elementary teachers, secondary teachers, or teachers of all levels in art, health and physical education, or music; additionally, it has been designed for students seeking special endorsements to their provisional certification.

The information provided here is the product of an evolutionary process—the strategy described in the second attachment—and is in no sense a finished product. Rather it represents only the most recent stage in that process. To identify all of those responsible for this design would be a most difficult task. It suffices here to say only that the process involved the efforts of a great many persons over an extended period of time. The product of those efforts is presented here for your information and consideration.

A Review of the Program Development Process

The Professional Teacher Preparation Program has been viewed as an instructional system. Thus, it is seen as an integrated and comprehensive effort which must maintain its capacity for change. That is, the Program must be an open, regenerative system which has been carefully conceived and conceptualized. Program development efforts have produced increasing specificity concerning various aspects of the program. Program assumptions, goals, structures, and processes have been articulated and are presented here in tentative form. Certain expectations regarding student outcomes have been specified as competencies; still others remain to be made explicit. To promote and assure the student's acquisition and demonstration of those competencies, explicit objectives, alternative learning experiences, and assessment procedures will be specified; these will constitute the major elements of the instructional system. And to facilitate program development and operation, a management system has been designed and operationalized. A very brief description of the management system is provided in Attachment One.

Attachment Three (continued)

Program Assumptions

The first stage in program development is viewed here as the identification of the assumptions on which designers were to build the program. These include assumptions concerning: (1) the needs of society; (2) the nature of learning; (3) the role of the teacher; and (4) the characteristics of the instructional system.

Societal Needs

To be viable, an instructional system for preparing teachers must place its emphasis on the learner—the learner as pre-professional and the learner as pupil. Further, the instructional system must reflect those values of a pluralistic society which hold that individuals must be provided an opportunity to reach their fullest potential. The following assumptions are posited regarding society's need for members who:

1. Function effectively both as individuals and as members of groups.
2. Accept, appreciate, and encourage social, cultural, racial, and individual diversity and ideological differences.
3. Make rational decisions based on the best available data.
4. Cope with change, conflict, and ambiguity.
5. Deal with personal affective biases and institutionalized discrimination.
6. Perceive reality in terms of its complexities and interrelatedness and deal with it comprehensively and systemically.
7. Have personally meaningful relations with others.
8. Acquire and utilize a broad liberal education.
9. Are effective and efficient in those careers they select and for which they prepare.
10. Realize and utilize their creative abilities, strive to achieve their personal aspirations, and attempt to reach their potential.
11. Discriminate between situations which demand closure and those which do not.
12. Arrive at conscious and reasonable positions on important societal problems, make their positions known, and work cooperatively in solving those problems.
13. Evaluate the success of their undertakings and use data in refashioning their efforts and commitments.

Attachment Three (continued)

Nature of Learning

The second set of assumptions which will undergird the program have to do with the nature of learning. Learning is viewed here as a highly individual process, with each person entering the learning environment with a unique learning style. To many—perhaps most—the learning process is inherently rewarding and reinforcing. Additionally, it is assumed that learners function at an optimal level of effectiveness and efficiency when they:

1. View learning as an exciting and natural experience.
2. Perceive the learning outcomes and instructional process as meaningful.
3. Accept some learning outcomes as important because they lead to other outcomes.
4. Have a sense of identity as to who they are and have a sense of power in terms of being able to cope with their environment.
5. View their achievements as being valued.
6. Are aware of themselves, are aware of the ways in which they learn, and have developed skills in evaluating their own learning.
7. Are accepted and respected by others.
8. Expect to succeed and are expected to succeed.
9. Perceive themselves as being dealt with personally.
10. Receive positive reinforcement for appropriate behavior.
11. Receive immediate feedback in a supportive situation which provides a basis for evaluation and modification.
12. Know what is expected of them.
13. Work at a pace suited to their abilities.
14. Work with learning tasks appropriate to their level of development.

Role of the Teacher

Effective teachers establish standards of personal and professional excellence and actively work toward their attainment. They strive to become effective students of human behavior and draw upon principles of human learning to better understand their students. They view new and possibly more effective instructional processes and curricula with open minds and evaluate their usefulness. Effective teachers demonstrate a repertoire of teaching skills which complements their personal characteristics and meets the needs of the teaching profession. Most importantly,

Attachment Three (continued)

they strive to be models of effective learning and to exemplify this for students. The position taken here is that teachers tend to be more effective when they:

1. Selectively employ a variety of instructional strategies and tactics.
2. Are responsive students of human behavior.
3. Employ rational decision-making procedures relevant to goal achievement.
4. Communicate their messages consistently and in a variety of ways.
5. View teaching as a learning opportunity for themselves.
6. Function primarily as facilitators of learning rather than dispensers of information.
7. Are concerned with affective outcomes as well as cognitive understanding and psychomotor skills.
8. Stimulate student independence and interdependence, self-discovery, and depth of expression.
9. Apply knowledge about how the environment affects the learner.
10. Are guided by professional and ethical standards.
11. Experiment with and evaluate new and potentially more effective instruction processes and curricula.
12. Interact with members of all segments of the community regarding educational issues relevant to their schools.
13. Evaluate their own competence and strive for continued growth.
14. Interact with other professionals to work for improvement of the teaching profession.
15. View themselves as accountable to pupils, parents, profession, and society at large.
16. Apply an understanding of cultural diversity to the instructional process.

Characteristics of the Instructional System

The structure of the instructional system is based on assumptions regarding the needs of society, the nature of learning, and the role of the teacher. Here the College of Education is viewed as a professional school—the training arm of the education professions. It is responsible for expanding and refining the valid knowledge base of the profession and for preparing practitioners who will teach in accordance with that ever-enlarging knowledge. Thus, its teacher education program assumes that the most important and valid competencies of teachers can be specified, assessed, and developed through properly designed instructional systems. It is assumed here that the instructional system is more effective when it is:

Attachment Three (continued)

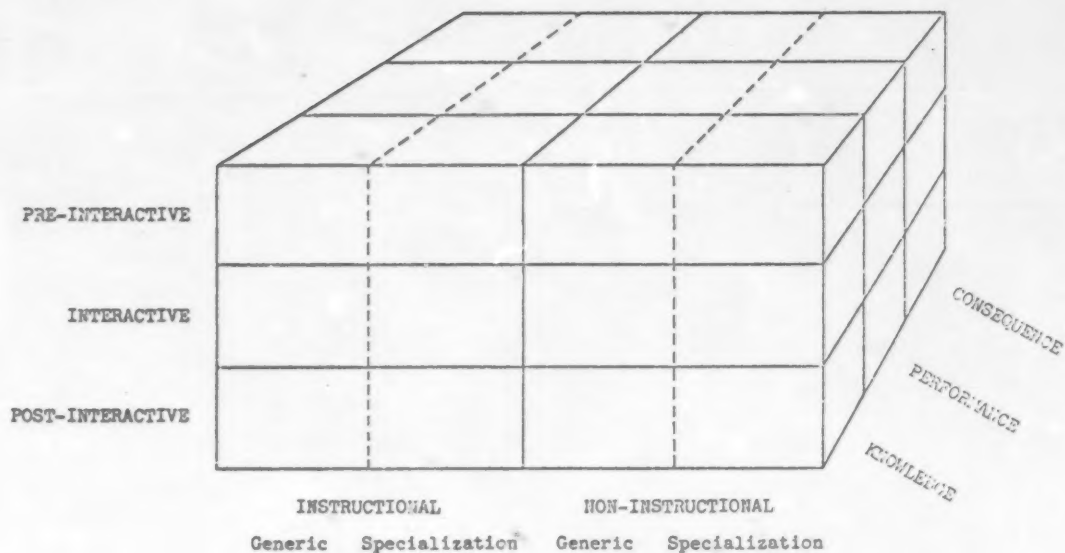
1. Competency based; that is, the competencies to be demonstrated by the student are made explicit, the criteria to be applied in assessing the student's competencies are made explicit, and the student is held accountable for meeting those criteria. The emphasis is on the demonstration, not the acquisition, of those competencies specified as program expectation..
2. Campus-centered and field-oriented; that is, students are provided with opportunities to experience instruction and to demonstrate competence both on campus and in field sites depending upon the nature of the particular instructional or assessment activity and a determination as to where that activity can most effectively and efficiently take place.
3. Role-modeled based; that is, a conceptual model of the teacher's role is used as a basis for identifying and specifying those competencies students are expected to demonstrate.
4. Criterion-referenced; that is, assessment procedures are designed to determine whether or not a student has demonstrated competency at or above the level of mastery specified; the competency of each student is judged on the basis of predetermined criteria and is not determined through a comparison involving other students.
5. Pluralistic; that is, there is conscious acceptance of the notion that no one philosophy of instruction has been proved best; consequently, a variety of divergent views are posited as untested assumptions which the system must test.
6. Humanized; that is, program design and operation recognize the dignity and worth of each individual so that each perceives that he or she is being treated as one of worth.
7. Personalized; that is, the student is provided with instruction which takes into account his or her uniqueness.
8. Modularized; that is, the delivery of instruction is accomplished through the utilization of instructional modules; instructional modules are sets of learning activities--rationale, objectives, prerequisites, pre-assessment procedures, learning alternatives, post-assessment procedures, and remedial procedures--which are intended to facilitate the learner's acquisition and demonstration of a particular competency or set of competencies.
9. Multi-institutional; that is, the design and operation of the teacher education program is a responsibility shared by colleges, public schools, and the organized teaching profession.
10. Systemized; that is, the systems approach is used in program design and operation.
11. Regenerative; that is, the program is an open system capable of continuous revision on the basis of constructive data supplied by sound formative and summative evaluation procedures.
12. A single system with alternatives within it; that is, the program is a single instructional system which constitutes an integrated, comprehensive whole; however, the system does accommodate a divergence of viewpoints within its confines.

Attachment Three (continued)

Teacher Competencies Model

The figure on the next page represents the teacher competencies model being proposed for the PPP. The model is intended to provide a basis from which will be derived those competencies for which students will be held accountable. The model is three dimensional; these three dimensions are as follows:

1. Instructional/non-instructional. The teacher's role is largely one of fulfilling instructional responsibilities—planning lessons, asking questions, and evaluating pupil achievement, for example. Additionally, in order to be effective the teacher must also meet non-instructional responsibilities—making home visits, working with fellow teachers, and behaving in accordance with the ethics of the profession. Each of these two dimensions may be further divided into two dimensions—generic competencies and specialized competencies. Generic competencies refer to those which are believed to be requisite to effective teaching regardless of content or student; the asking of higher-order questions would be an example of such a competency. On the other hand, specialization competencies refer to those competencies which are relatively unique to particular content or students—the teaching of noun-verb agreement and the teaching of eye-hand coordination activities to nursery-school-age children are examples.
2. Pre-interactive/interactive/post-interactive. The second dimension of the role model makes a distinction between three kinds of competencies on the basis of the sequence in which they generally occur. In the usual teaching sequence, for example, the teacher displays a pre-interactive competency (plans the lesson) prior to the display of an interactive competency (teaches the lesson); this is followed by the teacher's display of a post-interactive competency (evaluates the effectiveness of the lesson).
3. Knowledge/performance/consequence. The third dimension of the model makes a distinction between the kinds of indicators which are accepted as evidence of demonstrated competency. Knowledge competencies require knowledge criteria, performance competencies require performance criteria, and consequence competencies require consequence criteria. That is, knowledge competencies refer to those cognitive understandings of the teacher which enable him or her to be effective; performance competencies refer to those teaching behaviors which enable the teacher to be effective; and consequence competencies refer to the results that the effective teacher is able to bring about in working with his or her students.



TEACHER COMPETENCIES MODEL

Attachment Three (continued)

Generic Teaching Competencies

The two pages which follow present a list of the sixteen generic teaching competencies which have been thus far identified; the first fifteen of these have been approved by the Undergraduate Studies Committee for inclusion in the Professional Teacher Preparation Program. Further program development in this regard—instructional module design and sequencing, for example—will be accomplished in accordance with the strategy which was described in Attachment Two.

Attachment Three (continued)

GENERIC TEACHING COMPETENCIES

1. *Identifies learner's emotional, social, physical and intellectual needs.*
Draws upon knowledge of human growth and development, learning theories, social/cultural foundations, assessment techniques, curriculum goals and content in order to gather information about the learner and to identify instructional needs.
2. *Identifies and/or specifies instructional goals and objectives which are based on learner's needs.*
Views the setting of instructional goals and objectives as a key element in instruction; reconciles curricular and educational goals with present level of learner's needs; analyzes instructional goals to identify knowledge, skills, and attitudes needed to achieve those goals; states objectives so that intent is clearly communicated to learner.
3. *Designs instruction appropriate to goals and objectives.*
Develops a variety of strategies for promoting achievement of instructional goals and objectives which reflect the learner's needs and offer the learner alternative ways of achieving those goals and objectives.
4. *Implements instruction that is consistent with plan.*
Demonstrates the ability to use a variety of strategies which have the potential to promote learner achievement of specified instructional goals and objectives.
5. *Designs and implements evaluation procedures which focus on learner achievement and instructional effectiveness.*
Evaluates learner performance with reference to a variety of goals and objectives; reports learner achievement through grades, consultations, checklists and/or other appropriate means; evaluates instructional effectiveness by comparing learner's achievement with objectives.
6. *Integrates into instruction the cultural environment of students.*
Incorporates materials, examples, illustrations, motivators and reinforcers from learner's cultural environment so that learner is able to identify with content, processes and intended outcomes of instruction.
7. *Demonstrates a repertoire of instructional models and teaching skills appropriate to specified objectives and to particular learners.*
Describes and demonstrates a variety of instructional models; uses appropriate models of instruction based upon the subject, objectives and needs of learners; uses teaching techniques appropriate to those instructional models.

Attachment Three (continued)

8. *Promotes effective patterns of communication.*
Recognizes the value of effective communication; communicates effectively verbally, non-verbally, and in writing; accepts and supports ideas of others; strives for more productive communication; and encourages interaction among all members of the group.
9. *Uses resources appropriate to instructional objectives.*
Operates audio-visual equipment, makes instructional materials, identifies sources of instructional materials and uses instructional materials appropriate to objectives; organizes resources in the classroom and community for instructional purposes.
10. *Modifies instruction on the basis of learner's verbal and non-verbal feedback during instruction.*
Demonstrates a continuous awareness of learner's activity to make decisions regarding success of instructional processes and learner achievement; alters instructional processes on the basis of information thus obtained.
11. *Uses organizational and management skills to establish a maximally effective learning environment.*
Establishes and maintains a classroom climate which promotes individual achievement and personal growth; organizes and encourages productive group interaction; and establishes positive relationships with and among learners.
12. *Identifies and reacts with sensitivity to the needs and feelings of self and others.*
Demonstrates a concern for the needs of learners; recognizes that as a member of a learning group, the teacher has needs which must be met in a teaching-learning situation; and reacts to meet the needs of learners, self, co-workers, and parents.
13. *Exhibits openness and flexibility.*
Seaches continually for ways to improve instructional effectiveness; listens critically to ideas of others, is open to suggestions, and bases decisions upon best available data.
14. *Works effectively as a member of a professional team.*
Works with others in order to achieve commonly shared goals; displays behaviors consistent with the goals and ethics of the teaching profession.
15. *Analyzes professional effectiveness and continually strives to increase that effectiveness.*
Uses a variety of observational and analytic procedures to study teaching effectiveness; examines the consequences of teaching by focusing on learner objectives and instructional outcomes.
16. *Designs and implements instruction which incorporates career education concepts.*
Develops and utilizes a variety of strategies for embedding career education concepts into course content and instructional activities; addresses the need for learners to learn about themselves, their environment, and the work roles played by individuals in society.

Attachment Four. Program Development Responsibilities

Attachment One noted that the Program Development and Implementation Council (PDIC) is responsible for coordinating and facilitating the conceptualization, design, development, implementation, operation, and evaluation of the Professional Teacher Preparation Program (PTPP). It was emphasized that the PDIC's role is one of coordination and facilitation and that responsibility and accountability for the design and delivery of the various instructional components of the PTPP rests with various departments and program areas within the College. It is the position of the PDIC that these departments and program areas cannot be held accountable for component design and delivery if they are not also given this responsibility.

Items 9 and 11 of Attachment Two provide very brief descriptions of certain of those PTPP program development responsibilities which appropriately belong to the departments and program areas concerned. The purpose of this attachment is to elaborate on the comments made earlier. The following is offered as a tentative schedule of the major department and program area program development activities relevant to the PTPP:

1. Prior to May 15 each department and program area which has responsibility for a component of the PTPP should prepare a list of competencies appropriate to its component. It would be helpful if this list was similar in format to the generic teaching competencies which were presented in Attachment Three. Additionally, it is important that each department and program area describe the instructional module or modules which its faculty will develop for each of those competencies identified; additionally, it should indicate the instructional module sequence which would be recommended or required for students. Responsibility of the PDIC during this period is one of coordination and facilitation. Therefore, the Associate Director of the PTPP for Program Development, Will Weber, will be available to consult with departments and program areas as they specify and describe their component competencies, make decisions about the instructional modules they will develop, and consider the instructional sequence they will employ in delivering their component. It is anticipated that the list of competencies, the instructional module titles, and the instructional sequence description would be completed by each of the departments and program areas involved and forwarded to the PDIC by May 15.
2. The next task which department and program area faculty would undertake would be a review of the comprehensive design for the PTPP created by the PDIC during the summer of 1975. Each department and program area having program component design and delivery responsibilities would take adequate time to study this comprehensive design. Each would be asked to make

Attachment Four (continued)

recommendations in this regard and to provide the PDIC with feedback reflecting specific concerns about the comprehensive design. The PDIC would finalize that design and submit it to the Undergraduate Studies Committee for review and approval. It is anticipated that this would occur within the first several weeks of the fall, 1975, semester.

3. Upon approval of the comprehensive design by the Undergraduate Studies Committee and the faculty of the College, the involved departments and program areas would undertake the design and development of those instructional modules each described earlier as appropriate to the competencies specified for the respective components. Again, the role of the PDIC in this process would be one of coordination and facilitation. The PDIC would assist departments and program areas in this effort to the extent of its resources; the Associate Director of PTPP for Program Development would once again be available upon request to assist in the development process. It is expected that all instructional modules and the instructional and assessment materials necessary to support those modules will be completed by the end of the spring, 1976, semester.
4. With the full implementation of the PTPP program beginning in the fall of 1976, department and program area responsibility with regard to their respective components of the PTPP would be primarily that of delivering instruction by implementing the modules designed and developed during the previous year. It is anticipated that program development efforts during this period would be primarily of a refinement and modification nature as suggested by formative data regarding program component appropriateness and effectiveness. Again during this period, the role of the PDIC would be one of coordination and facilitation as each department and program area is responsible and accountable for instruction relevant to its respective component. It is expected that the PDIC would provide assistance in this regard as appropriate.